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ABSTRACT

Twelve papers describe recent developments at the Model Secondary School for the Deaf (MSSD) on the campus of Gallaudet College. Topics covered include the following: MSSD'S role as a change model; an Instrumental Enrichment project designed to increase adolescents' thinking skills; an approach integrating reading, English grammar, and composition into the English curriculum; a sexuality program for deaf youth; home management instruction through a training apartment program; approaches to fostering parent involvement; intercultural exchange through the American Field Service; support programs for students with multiple disabilities; MSSD'S evaluation/supervision model; a project designed to evaluate existing curricula and institute changes focusing on higher order cognitive skills; and information services offered by MSSD'S Learning Resources Center. (CL)

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Directions

Gallaudet College

Secondary Programming: The Model Concept

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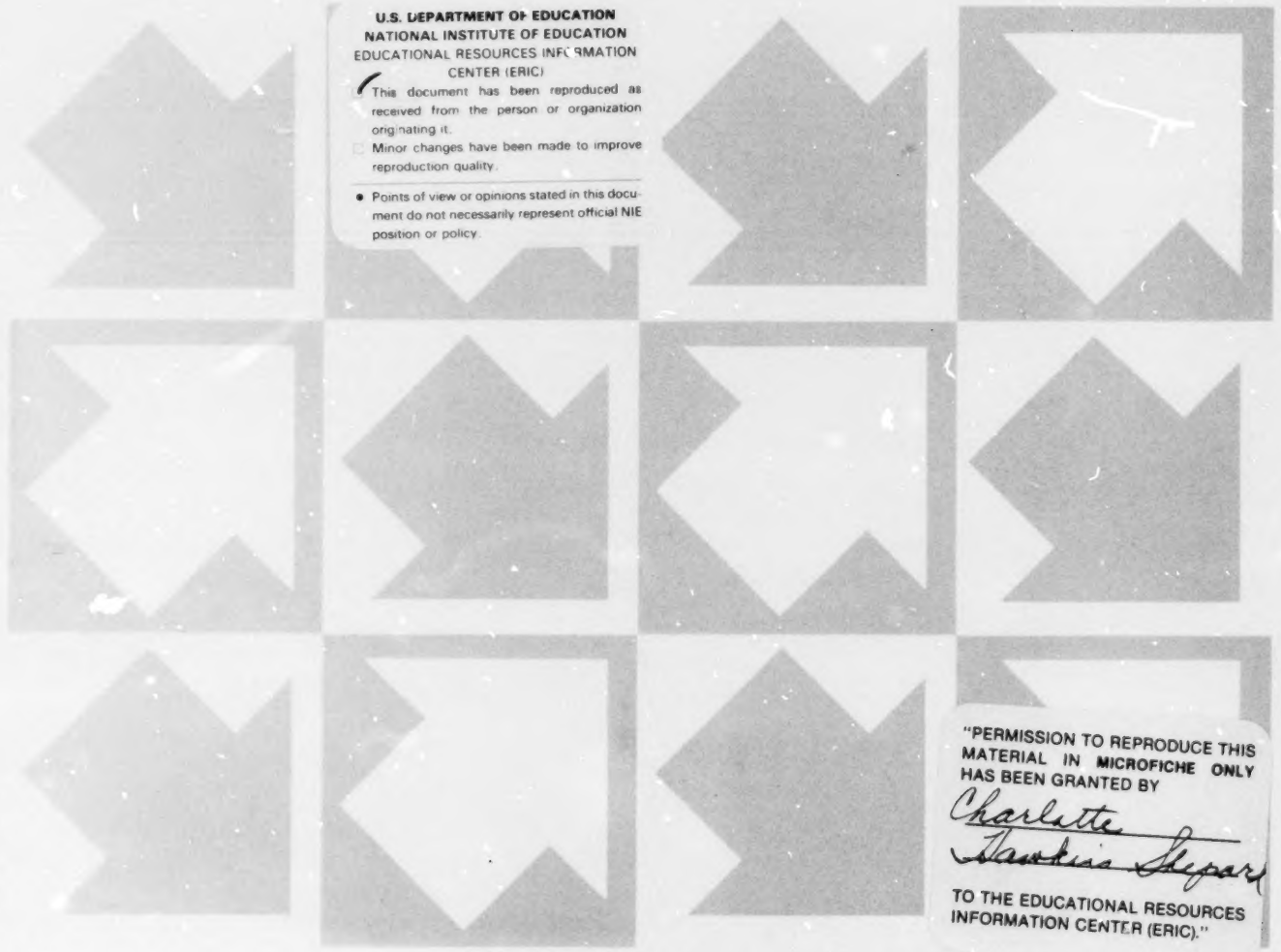

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Update on Academic, Professional, Career, and Research Activities
Volume 3 Number 4, 1983

Directions

Gallaudet College

Secondary Programming: The Model Concept

Lee Murphy
Guest Editor

Update on Academic, Professional,
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An Important Notice to Our Readers from Doin E. Hicks, Editor

Gallaudet College has, for four years, been pleased to offer *Directions* as a means of sharing recent developments in the field of deaf education. A number of considerations, some of them economic, have forced us to examine other ways of exporting this knowledge. We have decided to change the *Directions* series from a journal to a book format. Consequently, this issue, Volume 3 Number 4, is the last journal issue we will publish.

In place of the journal, the Gallaudet College Press will publish a series of books, *Directions in Deafness Research*, which, like the journal, will cover recent developments in the field. The content of the books, which will appear roughly once per year, will be more comprehensive than that of the journal. The books will be available through subscription or through single copy sales. (Subscribers have been informed of these changes through a letter.)

We regret that it has become necessary to discontinue the journal, but hope that the series of books will prove even more beneficial to the field.

Introduction

Robert R. Davila

The collection of papers that follows provides a detailed documentation of some of the more recent developments at the Model Secondary School for the Deaf (MSSD) on the campus of Gallaudet College in Washington, D.C. The programs and activities at MSSD are part of a continuous process of innovation, development, and implementation that has characterized the school's major thrust since its inception in 1966. MSSD's mission specifically charges it with the responsibility to provide an exemplary education to its 400+ students; to prepare its graduates for postsecondary education; and to share its educational products, programs, and technical expertise throughout the professional community.

As a means of providing generalizability, the article authors selected particular educational principles/goals, then provided descriptions of related educational program components, using MSSD as an example of how such program components have been implemented in effective ways with deaf adolescents.

The papers do not, however, contain the complete story. For 15 years, dedicated professionals who are committed to improving the quality of life for deaf individuals have enhanced their students' educational opportunities at the secondary level. The fact that more than 70% of all MSSD graduates have continued their education beyond the secondary level is strong testimony to the viability of the school and the efforts of its staff to fulfill the school's purpose.

It is always difficult to evolve a model program. For MSSD there was neither history nor experience to guide the developers because the school was a new concept in regional high school programming. The evidence indicates that MSSD has made its mark on the education of deaf adolescents. More needs to be done, and the task may never be finished. Yet it is a task that is of paramount importance, especially at a time when public attitudes could threaten traditional and successful placements for hearing-impaired adolescents. It is incumbent upon MSSD and other programs to demonstrate that they can and do make a marked difference in the academic, social, and psychological development of young deaf persons.

As part of MSSD's mission to education beyond its student body, this issue of *Directions* includes information on ways in which the school's programs and activities have responded to the educational needs of deaf adolescents. The authors hope the report will stimulate the thinking of other professionals and all people involved in the education of deaf adolescents.

MSSD: What Is a Model Program?

Lee Murphy
Doin E. Hicks

Viewed in its broadest sense, a scientific model might be thought of as a representation of some subject of inquiry (e.g., objects, processes, systems) to be utilized for purposes of controlling predictions and decision making.

(Hill & Kerber, 1967)

A model must be manipulated to determine the effects of change, rather than to impose changes on other systems.

The Model Secondary School for the Deaf (MSSD) was created as a vehicle for testing deafness-related educational theories in a real-life setting. MSSD has existed for 15 years—first as a concept, then as a group of people without facilities, and finally as a large, comprehensive center for the education of deaf teenagers. The school has grown from a few teachers developing curriculum to a program of 400 students; 200 faculty and staff; and a large support group of researchers, instructional developers, and outreach/dissemination personnel.

MSSD can be considered an educational and administrative experimental laboratory. The faculty and staff of MSSD have experimented with a wide variety of programs over the short history of the school, while maintaining consistency in the underlying approach to teaching.

Many concepts and position papers have been developed, reviewed, and modified over the years to define the missions and directions of the school. The primary mission of the school, as established by law, is to educate students and prepare them for postsecondary education. The secondary mission of the school is to disseminate information about its activities, programs, and accomplishments, as well as its failures. Consequently, MSSD has shared its products, people, and ideas throughout the profession. In order to fulfill the definition of a model, one more mission must be included—an evaluation of the impact of information sharing on the profession. A successful model is interactive; the cycle never-ending.

Background

The primary justification for the federal support of the MSSD is its potential for stimulating positive change in the process of educating deaf students on a national basis.

(Hicks, 1976)

Instructional Programming

Doin E. Hicks, MSSD's first administrator, suggested that MSSD's approach to achieving optimum learning experiences should be to employ individualized instruction, to establish programs, and to develop the communication skills of each student to maximum potential (1976). In some cases this approach was successful; in others it was not.

In order to respond to individual needs and educational trends, a number of new and innovative programs have been initiated at MSSD. Some recent projects include a student leadership program (SLP), a utilization of Glasser's reality therapy program, broad use of computers, cognitive studies (instrumental enrichment), a sex education program, increased student government, and an extensive training apartment program. In addition to these student-oriented programs, the school offers opportunities for professional development, parent education, research, and long-range planning.

Individualization of instruction was easier to plan and provide when the numbers of students was relatively small. As the school grew over the years (from a few to over 400 students) more and more group teaching occurred. Individualized tutoring is now available both in the academic and residential programs.

Beyond the daily operational aspects of MSSD is a larger gestalt of many people working together to establish an atmosphere of learning. Seriousness of purpose marks all levels of the program—from the students themselves to resident assistants, faculty and staff, the administrators, and parents.

Dissemination

Dissemination concerns itself with transferring products, processes, and information in support of educational practices that are increasingly humanistic, individualized, life-oriented, meaningful, effective, and cost efficient. The following basic principles have been identified to guide dissemination strategies for MSSD:

1. Every setting for installation of a program or product is different to some extent from others.
2. Individuals and organizations differ in their openness to change. Those with attitudes of openness to change are more likely to adopt and use innovations successfully.
3. The change agent must establish a role that can be accepted by the clientele as a legitimate basis for working with the change agent.

MSSD strives to carry out this transfer in a variety of ways through its Outreach unit. The Special School of the Future Project, initiated by the Division of Public Services at Gallaudet College, has now become part of Pre-College Programs at Gallaudet. The Special School of the Future (SSoF) is a network of schools and programs across the nation established in 1977 by a grant from the Kellogg Foundation to Gallaudet College. The Affiliated Schools Program (ASP) is a network of schools and programs in the geographic areas immediately adjacent to Washington, D.C.—Pennsylvania, Maryland, Vir-

ginia, West Virginia, Delaware, and Ohio. The ASP is a traditional, effective mechanism for articulating and meeting needs from the field. The periodicals and educational materials published by Pre-College Programs are written testimony to the efforts of MSSD to disseminate ideas and plans for educating deaf teenagers. Both networks (SSoF and ASP) provide strong, viable systems for exchanging information and personnel.

Impact

The ideas that originate within MSSD are often catalytic in nature, but even more important are the ideas, suggestions, and recommendations from the field that make the model beneficial and flexible. Members of the MSSD community are ready to test, review, and refine any project that will help deaf teenagers mature into self-sufficient adults. Together with schools across the country, MSSD helps design methods, strategies, and techniques for working with these students.

An example of this occurred five years ago when MSSD and the National Technical Institute for the Deaf (NTID) decided to develop the concept of career education for the deaf. Feedback derived from members of the profession through workshops and collaboration helped in the design of a national system. New knowledge, ideas and plans were formulated. Phase I (dissemination of materials and training of teachers, counselors, and administrators) was completed in 1982. Phase II (an enrichment experience for sophomores from the ASP network) currently is being planned. These students will study and work for a week at MSSD during the summer months to develop their career awareness and exploration skills. The model goes on.

Is MSSD a Model?

Is MSSD a model program? If a model is seen as a change agent, then MSSD is a model. It includes experimental programs and creative people to plan for these programs. Its Outreach unit is expanding its work and its impact. Experimentation is based on trial and error. MSSD has designed, developed, and implemented many successful innovative programs; it has also struggled with inappropriate ideas and programs. It is important for educators and administrators to visit, observe, discuss, evaluate, and utilize MSSD.

Therefore, as a new beginning for MSSD after only 15 years of "getting organized," an invitation is hereby extended to the profession to help MSSD continue its role as a change model responsive to feedback. As it now exists, the school is imperfect and unfinished. Unless the cyclical, never-ending process of professional evaluation is established, the mandates from Congress will be unmet. The mechanism is in place for building an interdependent network as strong as its weakest link. As an evolutionary entity, the network is dependent on change to survive. By accepting the invitation, all schools and programs in the network become models for change, and each part of the network can grow according to its needs.

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Teaching Thinking Skills to the Hearing-Impaired Adolescent

David S. Martin
Jay Innes
Cindy Rohr-Redding

Teachers who work with hearing-impaired adolescents frequently express deep concern and frustration about some of their students' serious deficiencies in problem-solving skills. The concern often relates to the students' difficulty with (a) manipulating more than one variable, (b) conceptualizing what a textbook or journal author is saying, (c) forming conclusions, and (d) dealing with hypothetical data and spatial reasoning. Yet, research with hearing-impaired adolescents has found that no basic malfunctions are present in the cognitive abilities of that population and that many inferiorities in cognitive performance may be accounted for by experiential and linguistic deficits and communication handicaps (Levine, 1976, p. 28).

Theoretical Background

Before examining the applications of this research to the MSSD context, it is important to examine what prior research has shown in regard to the hearing-impaired learner. Previous studies have established that hearing-impaired children have certain specific cognitive deficiencies in areas such as memory (Karchmer & Belmont, 1976), concept application (Meadow, 1980), opposition (Furth, 1964; Meadow, 1980), analogic reasoning (Meadow, 1980), superordinate reasoning (Johnson, 1981), and classification (Best & Roberts, 1975). On the other hand, hearing-impaired learners have been shown to perform as well as hearing children on cognitive tasks such as understanding of parts vs. wholes (Furth, 1964), and understanding of sameness and of symmetry (Furth, 1964; Meadow, 1980).

Thus, there is normal performance by hearing-impaired individuals on some cognitive tasks and not on others; there also is controversy among the researchers, as well as a number of unanswered questions for further research.

Rationale for Intervention

If it is accepted as fact that certain cognitive deficiencies do exist for hearing-impaired individuals but that no evidence suggests less than the normal range of intellectual *potential* among them as a group, then it is apparent that a specific program in an educational setting may promise improvement of these skills.

Instrumental Enrichment

Reuven Feuerstein (1978, 1980), a student of Piaget, designed one such enrichment program. Feuerstein developed *Instrumental Enrichment* (IE) in response to the need for *mediated learning experiences* for culturally disadvantaged groups emigrating to Israel. *Mediation* refers to the process whereby another person (peer, parent, teacher) assists a learner in mastering a particular skill or concept, not by directly telling it to the learner but by suggesting alternative strategies by which the learner can arrive at the objective.

Instrumental Enrichment consists of content-free paper-and-pencil activities relating to 14 specific cognitive skills. The data reported here are based on one year of intervention using activities in the skills of projecting virtual relationships, orientation in personal space, comparison, and analytic perception. This program provides an excellent mechanism in relation to the results of those studies cited earlier for the following reasons:

1. IE gives students repeated opportunities to reflect on their own thinking processes.
2. IE develops the prerequisites for learning and does not assume that those prerequisites already exist in the learner.
3. IE does not assume that the student will automatically generalize the skills to other areas; instead, a critical element in the daily instructional sequence for IE is the "bridging" exercise in which the teacher overtly and actively promotes transfer by the student of the skills to both real-life and curricular situations.

A strong validation of the importance of training students in intellectual skills is made by Sternberg (1983). He lists several criteria, including the importance of training students in *strategies*, that any worthwhile training program should meet. Sternberg specifically mentions Feuerstein's Instrumental Enrichment as a successful example of such a program. Thus, the IE program represents a highly logical intervention step in the history of cognitive intervention programs.

Research Project

A special two-year pilot project is now under way at the Model Secondary School for the Deaf (MSSD) at Gallaudet College in Washington, D.C. A control group of 18 students and an experimental group of 10 students are being studied using various measures of cognitive functioning to assess the success of a systematic intervention program. The students in the control group were matched with the experimental group on the basis of age, sex, degree of hearing loss, and reading ability.

Measurement Instruments

Three questions need to be answered in the research study. First, can the students learn the particular skills? Second, can the students generalize their training to specific cur-

"The program is contributing some positive impact by giving students the prerequisites they need for developing reading comprehension skills."

ricular situations? Third, can their training generalize to other situations? To help answer each of these questions, three separate methods of data collection were planned.

Raven's Progressive Standard Matrices assess general intellectual capacity by requiring an individual to solve a series of increasingly difficult abstract design problems. The test has a multiple-choice, untimed format that can be given individually or in small groups. The Raven's was administered to both experimental and control subjects in December and in May.

Standard Achievement Test-Hearing Impaired Version (SAT-HI): Reading Comprehension subtest uses multiple-choice responses to written questions to assess an individual's ability to construct a coherent interpretation of an extended prose passage. It also measures specific decoding skills such as finding main ideas or locating supporting data. It is a timed test, intended to be given in a group setting. All MSSD students were given the entire SAT-HI battery during November 1981; the experimental and control students took it again in November 1982.

Problem-Solving Interviews were substituted for written responses to problem-solving situations because it was felt that the extra burden of writing English answers might mask some of the possible effects of the training. Each experimental and control subject was interviewed in December 1981 and in May/June 1982, using a prescribed format. The students were asked three questions by a hearing-impaired research assistant who was a user of American Sign Language. The three questions were:

1. Suppose you are responsible for planning a trip for a class to go from MSSD to downtown Washington for a whole day to visit the Capitol building. What steps would you take? Please list the things you would have to plan.
2. If you had to tell someone exactly how to walk from the Auditorium at MSSD to the Cafeteria, what directions would you give him or her?
3. You are in a restaurant downtown with an MSSD friend. After dinner, your friend becomes sick from the food he has eaten. He can't walk, and he is in pain. The restaurant manager refuses to help you. What would you do?

The students were videotaped while responding to the questions.

Results of Raven's Matrices

Since there are no suitable norms for hearing-impaired children for this test, simple frequency of correct responses was used as the best estimate of change in ability as the result of training.

While no statistically significant differences were found between the experimental and control groups using a one-way analysis of variance on the basis of the number of items correctly completed on the Raven's Matrices, a clear trend was found in the data when individual score changes were examined. (See Table 1.) The experimental group did perform better than the control group. The small size of the groups and the variance within both groups would reduce the chance of finding a statistically significant difference. On an individual basis, significant score changes can be found for some students and not others, suggesting that IE may be more effective for certain types of students (Kluwin, 1982).

Table 1
Changes in Individual Scores on Raven's Matrices

Group	Gain	Loss	Same
Experimental	7	3	0
Control	4	5	9

Note. From Evaluation of the Instrumental Training Project for the Model Secondary School for the Deaf, 1981–82. Unpublished manuscript, 1982.

Testing of the same experimental group at the end of the second year of IE instruction revealed even more impressive results. Compared with its original test scores on the Ravens Matrices in the fall of 1981, the IE group had gained an average of 6.3 points, while the control group gained 2.9 points. This difference approached statistical significance ($F=3.54$, $p< .07$), and supports the case for IE as an intervention that promotes logical and abstract thinking.

SAT-HI Results

The results of the Reading Comprehension subtest of the Stanford Achievement Test-Hearing Impaired version were analyzed for the changes in the experimental group between November 1981 and November 1982, and also for differences between the experimental and control groups on the November 1982 test. The experimental group showed a higher, though statistically nonsignificant, mean scaled score (154.1) than the control group (150.6) on the posttest of November 1982. A test for significance of difference *within* each group between pretests and posttests, however, showed a significant increase for the experimental group ($p <.05$), while no such difference was found within the control group.

The trend in favor of the experimental group would indicate that the program is contributing some positive impact by giving students the prerequisites they need for developing reading comprehension skills These skills have been defined by the testmaker as the ability to (a) analyze explicit and implicit meaning,

"The reported increase in student self-expectation of greater precision is directly traceable to the regular emphasis on precision of responses."

(b) understand meaning from context, and (c) make inferences.

Additional analyses were carried out on the SAT-HI subtest of mathematical computation. When the IE group was compared to the entire MSSD student body (N=253) on that test, the IE group made gains of 8.9 scaled score points, compared with the mean gain of 4.8 points for all MSSD students. Again, this difference approached, though did not reach, statistical significance. Thus, IE as a cognitive intervention appears to have observable and measurable results in academic achievement areas of basic skills. It remains for larger groups to be tested with the IE program in order to learn whether these evident effects can reach statistical significance.

Problem-Solving Interviews: Procedures and Results

Each subject was interviewed by a hearing-impaired adult before and after the IE experience. From these videotaped interviews, three sets of videotapes were prepared for analysis. Each videotape contained one set of responses (i.e., pre and post experience) for each individual in the experimental and control groups (Kluwin, 1982). (See Table 2.)

The results of the interview analysis indicate a trend in favor of the experimental group in regard to practicality of the solution suggested and the completeness of the solution to the problem situation. Again, some of the experimental group students were able to generalize from IE to the problem situation, suggesting that the program impacts on students in varying degrees and does have an observable effect.

Teacher Observation of Behavior

Teachers of all experimental students were asked to rate students' cognitive behavior before the beginning of the experimental period and again near the end of the first project year. The teachers received a checklist of behaviors that reflected the major goals of IE. (See Table 3.) The reporting teachers were *not* those involved in the teacher-training group; thus, they had no specific preconceived expectations for any changes in student behavior in the experimental group.

Weights were assigned to each of the points on the scale, with 5 being the highest possible value. Responses were tallied across respondents, and means were then determined for each scale item. The weighted means were then compared between pre and postsurveys to determine changes in teacher-perceived behavior of experimental students. No tests of statistical significance of differences were possible because of the small sample size. However, differences were inspected for clear trends. Changes between pre and postsurvey items of .3 or more were considered noteworthy as trends. The items from the behavior checklist that exhibited a change of .3 or more are preceded by a bullet in Table 3.

Table 2
Number of Individuals with Higher Posttest Ratings on Interviews

	Cognitive Skills			
Question #	Practicality	Completeness	Organization	Systematic Planning
Set 1				
Experimental (n=9)	2	2	3	2
Control (n=9)	0	1	1	0
Set 2				
Experimental (n=9)	1	4	1	1
Control (n=9)	0	0	0	0
Set 3				
Experimental (n=9)	4	0	1	1
Control (n=9)	0	0	0	0
Totals				
Experimental	7	6	5	4
Control	0	1	1	0

Discussion

A discussion of these admittedly subjective observations must include the reported behavioral trends in relation not only to the goals of IE but also to the typical classroom activities that characterize the teaching in IE classes.

For *Item* #2, the clear increase in the use of the dictionary is explained in two ways: (a) the dictionary itself is frequently used to check on vocabulary terms during IE sessions, and (b) the awareness level of words per se is clearly higher for IE classes as evidenced by the impressive cumulative list of new terms that students learn and apply throughout the year. For *Item* #3, the reported increase in student self-expectation of greater precision is directly traceable to the regular emphasis on precision of responses—both on paper and during discussions—in IE work. For *Item*

"Students begin to remind each other about the importance of not jumping to the first solution that comes to mind."

#11, the significantly increased willingness to help others in class is a behavioral by-product of the instruction because peer assistance is actively encouraged by the structure of IE lessons; students are given ample opportunities to work with each other during and after completion of their particular assigned paper-and-pencil exercises.

For *Item #16*, the increase in working well with others in a group is explained similarly to the increase reported in peer assistance (*Item #11*). In addition, the consistent teaching style of group discussions following completion of each day's exercises also clearly reinforces positive intragroup behavior by members of the class. For *Item #18*, the improvement in "listening" skills (the hearing-impaired equivalent would be "visually attending" closely to others' signed responses) is related to the fact that IE teachers take class time to focus on methods of positively critiquing a peer student's work. For *Item #19*, the reported decrease in impulsivity is directly related to one of the major goals of IE: to encourage students to take time to think through a problem before embarking upon a solution. The teaching style is a continual reminder to "stop and think" in various ways, and again, students begin to remind each other about the importance of not jumping to the first solution that comes to mind. For *Item #24*, the large reported increase in the use of multiple problem-solving strategies is directly related to the goals of IE in the reduction of simplistic approaches to problem solving and the reinforcement of keeping more than one variable in mind at the same time. Finally, for *Item #25*, the increase in the defense of one's own opinions on the basis of "logical evidence" is probably the direct result of IE class discussions in which

Table 3
Teacher Observation Checklist:
Weighted Means for Experimental Group

Item	Student Behavior	Ratings: Presurvey (1=low; 5=high)	Ratings: Postsurvey (1=low; 5=high)
1	Corrects own mistakes spontaneously	2.7	2.6
2	•Uses dictionary spontaneously	1.8	2.1
3	Takes responsibility for own supplies	3.5	3.4
4	Settles down to work rapidly at beginning of class	3.3	3.3
5	Makes a minimum number of errors and erasures	2.7	2.9
6	Reads and follows directions spontaneously	2.8	2.6
7	Takes responsibility for making up work missed	2.7	2.6
8	Concentrates on task at hand for appropriate period of time	3.6	3.6
9	•Expects himself/herself to be precise, exact	2.9	3.2
10	Gives relevant and complete answers to questions	3.4	3.3
	Work Habits		
11	•Is willing to help others in class	3.1	3.8
12	Approaches new tasks and work with confidence	2.9	2.7
13	Participates willingly in oral discussions	3.2	3.1
14	Volunteers to do extra work	2.1	2.0
15	Looks for alternative ways of doing things	2.5	2.5
16	•Works well with others in a group	3.1	3.4
17	Is enthusiastic about learning	3.2	3.1
18	•Is considerate of others' feelings and listens to others	3.3	3.8
19	•Acts without impulsivity	3.0	3.5
20	Avoids being involved in fights and arguments	3.0	3.2

"Some rather abstract concepts have become part of their everyday expressive language."

Table 3 (continued)

	Classroom Behavior		
21	Uses problem-solving vocabulary taught	2.9	3.0
22	Develops new Instrumental Enrichment exercises	2.0	1.9
23	Other teachers report he/she uses IE strategies in other classes	–	–
24	•Can describe use of several problem-solving strategies to others	2.1	2.8
25	•Will defend own opinions on basis of logical evidence	3.0	3.3

• Indicates an increase of +.3 or more

students must present their solutions and defend them to their peers before the teacher reinforces any one solution. Although logical-deductive thinking is not an in-depth focus of IE until the third year of the program, students are nonetheless required to go about solving problem situations in all of the program's instruments in a quasilogical sequence.

While observations reported by teachers not trained in IE are admittedly subjective and perhaps questionable because no simultaneous evaluation was done on control students, these data in any case provide evidence for some of the early effects of this program on hearing-impaired adolescents. As such, this type of data supplements the results provided elsewhere in this report.

Observations by Trained IE Teachers

Teachers who are experienced with training in IE and in teaching IE to students provide the following observations of the impact of IE.

Experimental students, now well into their second year of instruction in the IE program, are demonstrating new approaches and marked achievement in their course work assignments. The same systematic approaches applied to solving an IE exercise are being transferred to their class assignments.

Much of the vocabulary used in discussions about thinking and problem solving has also been internalized by students in IE. Some rather abstract concepts have become part of their everyday expressive language. Even after the long summer vacation, IE students retain this specialized vocabulary. In a brainstorming activity on the second day of school, second-year IE students were able to define with understanding such words as: absurdity, process of elimination, relevance, inference, and imagery.

Although IE students do not always approach assignments in the most efficient manner, they are quick to discover their own weaknesses in problem solving in regard to their precision, impulsivity, and planning. IE students often say, "Her answer is more precise than mine," or "I was impulsive and did not read the directions before beginning"; or "I did not finish my homework because I ran out of time; I did not plan well," or "My answers are not the same because I used a different strategy." They are identifying problems and recognizing a need for precision and planning in their own work.

A most exciting effect of the program has been spontaneous "bridging" between IE and school life. For example, when a student was expelled from school, the IE students discussed his impulsivity and inability to anticipate the results of his actions. In an English class, students were given an open-ended story with a conflict to resolve; one student was criticized for a most unusual conclusion. However, he outlined the pros and cons of his resolution, spontaneously, on the blackboard, and explained that his answer had to be acceptable because he could defend it.

Although students do not universally see the relevance of IE at first, experienced IE students feel positive about their ability to solve problems. They share that sense with first-year IE students who do not yet see the full benefits of the IE activities.

In this program the students also learn from *mediating* for one another; they are able to apply a variety of strategies and recognize different points of view. For example, while describing the directional relationship between a woman on the corner and a boy opposite her on another corner in an IE exercise, the students are taught to recognize that the description depends on a person's point of view. The concept is then transferred by the students to the issues of white supremacy and the generation gap.

Finally, there is also a noticeable difference in the students' study habits. Most have developed strategies for *organizing* their notebooks;

"We see strong professional commitment to the idea that positive growth is occurring in the probem-solving skills."

they more often *compare* class notes and assignments with classmates; they have begun to consult each other for *mediation*; and their ability to attend to the task in class and offer *relevant* points to discussions on topics in the curriculum has increased.

The following points summarize the IE teacher's point of view.

1. The program has created in the students an increased awareness of the importance of learning and its relation to everyday life. The constant use of mediation and bridging techniques during the program has contributed to the students' ability to transfer and apply concepts to varied situations.
2. The program reduces student fear of failure since it emphasizes involvement with the classroom situation (mediation, group discussions, etc.) rather than presenting ideas that are limited to singular judgment.
3. The program requires that students explore the "gray zone" in the sense that "black-white" or dichotomous thinking no longer is acceptable.
4. Students develop a systematic cause-effect approach to examining their own errors, as opposed to repetitive trial and error behavior.
5. The program requires the teacher to depart from the *safe zone* (i.e., questioning that requires a yes-no answer) and present thought-provoking questions that cannot be answered without being carefully thought out. In essence the teacher, instead of presenting information, facilitates the students' thinking as a means of creating their own path towards the acquisition of knowledge.
6. Participation in the program also deepens teacher preparation of lessons in subject matter areas.

Summary of Results

At the end of the first pilot year, some important and consistent effects can be reported for IE students:

1. Hearing-impaired students now approach problem-solving situations in the curriculum more systematically and with less impulsivity.
2. Students have improved in their ability to analyze the component parts of a problem.
3. Students have improved in their understanding of the reasons behind required assignments in English and mathematics.
4. Significant growth in vocabulary usage has been observed in sign language; no significant evidence of growth in written application of these words has been observed as yet.
5. Higher student motivation in problem-solving tasks has been noted by teachers.
6. Students are now working with peers in problem-solving tasks with less simplistic criticism of peers' work as either right or wrong; rather, they appear better able to analyze individual components of peers' work and to judge which elements are right and wrong *and* why.
7. Important increases have been clearly noted in peer cooperation and in students' positive attitudes toward criticism.
8. Student interview results indicate a statistically significant improvement for the experimental group in practicality, completeness, organization, and systematic planning in their solutions to problems (Kluwin, 1982, p. 8).
9. Although no statistically significant change was found on the measure of abstract thinking, a clear trend in favor of the experimental group was found (Kluwin, 1982, p. 6).
10. The teacher observation checklists indicated that the experimental students more frequently expected themselves to be precise, were able to describe several strategies to solve a problem, and defended their opinions on the basis of logical evidence.
11. Students have became less obsessed with the end results or terminal behavior of an objective and more interested in the means (process) by which the objective is reached.
12. Preliminary data indicate a trend in the improvement of reading comprehension in experimental students.

The continuing high enthusiasm of the pilot teachers had led to the involvement of 10 additional teachers at the school in the training for 1982-83. Thus, we see strong professional commitment to the idea that positive growth is occurring in the problem-solving skills of the students in this population. Such professional commitment and enthusiasm may be the most important indicators of all.

Program Adaptations for Hearing-Impaired Adolescents

In working with this special cognitive intervention program, some adaptations have been important in relating the program to hearing-impaired adolescents. Among them, the following have been reported by the pilot teachers:

1. The natural use of American Sign Language (ASL) by students in the classroom makes it necessary to restate teacher directions and student responses in Manual English. For example, in one instrument, students are asked to

"Hearing-impaired students can indeed improve their cognitive skills to a measurable degree."

give specific instructions on directionality; many of the students at first pointed rather than used the words *right, left, in front of,* or *behind.* In order to answer correctly in writing, students need to know the English equivalent for their signs.

2. Some additional classroom time is needed for introducing English vocabulary terms that have no equivalent sign representation.
3. Additional time is needed in selecting appropriate sign vocabulary because a large part of that vocabulary does not exist in sign language.
4. Because of the students' hearing loss, and the limited communication that some students have had in their home environment, additional time is needed for teaching about the world so that appropriate bridges can be made between the IE activities and applications to life situations.

Educational Importance

Systematic cognitive intervention for adolescent hearing-impaired learners is now demonstrated to be effective within nonclinical settings, provided that appropriate materials and adequate teacher training are made available prior to and during the intervention. More specifically, this study has the potential of making a great impact in cognitive education for special groups because it has now been demonstrated or confirmed that (a) hearing-impaired students can indeed improve their cognitive skills to a measurable degree; (b) adolescence, while late in the development cycle, is clearly *not* too late for effective, systematic intervention in cognitive strategies; and (c) the skills of projection of virtual relationships, comparison, analytic perception, and orientation in space are important prerequisites for adequate problem-solving behavior.

The present study thus provides important baseline data for cognitive intervention in the hearing-impaired adolescent and will be useful for future research with larger populations in our educational domain. In this never-ending loop of change, the reader is invited to offer feedback on this study through recommendations and questions. Interested educators of the hearing impaired are encouraged to ask the authors for information about the needed training and implementation for this program. On-site observations and visits will be welcomed.

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Integrating Reading, English Grammar, and Composition into the English Curriculum

Monet L. Daniels

Educators long have pondered the question of how to teach English to deaf high school students. Traditionally, their approach has been to teach English as a subject composed of separate and unrelated skill areas and to offer separate courses in each of these skill areas. Today educational researchers are beginning to question this approach. According to Sanacore (1983), "Writing and reading are viewed frequently as separate entities, unrelated. This limited perception usually results in fragmented curriculum development and isolated skill instruction" (p. 716).

Recent research indicates that educational programs are moving toward a *whole language* approach to teaching English. This approach states that reading and writing instruction should be integrated into the classroom (Starr & Bruce, 1983). Several researchers have pointed out that writing (encoding) and reading (decoding) both involve the structure of meaning. The more opportunities students have to experience the satisfaction and trials of structuring their own writing, the better prepared they will be to interpret the writing of others (Auten, 1983, p. 366). Petrosky (1982) discusses the similarities in reading, response to literature, and composition in an effort to support the idea of teaching English using a whole language approach. He argues that understanding is composing "and that the best representation of our understandings of texts begins with certain kinds of compositions" (p.19). The process involved in putting together meanings of words as students read is very similar to the putting together of thoughts as students write.

MSSD's Approach

This whole language approach is very similar to the approach currently being used in the English Department at MSSD. The program emphasis includes the integration of grammar as well as reading and writing into every course. The English Department at MSSD is concerned with the development of English as a language. The students are presented with various structures of the English language and are assisted in analyzing these structures and their functions (see Figure 1). The grammar lessons are made more meaningful by developing ideas and activities from stories read in class. Klein (1980) notes that the mental activity involved in sentence combining is central to both language production and language analysis. The manipulation of sentence structure and of content in sentence combining engages the participant in the internal working of the sentence—an act essential to comprehension (Auten, 1983, p. 367).

The MSSD population is composed of a unique body of students who represent a variety of states and countries. This diverse population offers a challenge to English teachers because of the students' different educational backgrounds and their varying skills and abilities. The English curriculum was designed to be multifaceted—to expose the students to a variety of literary styles and concepts, to develop cognitive abilities, and to strengthen students' skills in reading, composition, and grammar. (See Figures 1, 2, and 3).

Specific courses, each based on a central theme (e.g., myths, fables, and legends), are offered sequentially. The reading materials used in each course serve as catalysts for teaching specific skills in reading, composition, and grammar. All skill activities relate directly to the concepts and terminology used in teaching the reading passages and they help to reinforce comprehension. When teaching the skills component of a lesson, the teacher emphasizes the interrelationship of all three skill areas. This relationship helps clarify for the student how studying a particular grammatical structure can help him or her understand a reading passage and develop and improve writing skills.

Development of the Comprehensive Skills Checklist

To integrate all of the essential skill areas—reading, writing, and grammar—a systematic and sequential approach to teaching English was needed. The English Department developed a comprehensive skills checklist to facilitate the integration of skills into every course and to ensure that all essential skills were being taught and reinforced. In the spring of 1981, the department appointed three teachers to work on the development of a skills checklist. Their task was to identify all essential skills to be taught in reading, grammar, and composition in a four-year program and to design a spiral structure that emphasized higher level skills as the students progressed through the curriculum.

The three-member team developed the skills checklist in the summer of 1981. They used a variety of resources to identify the skills, and they consulted with department members while also considering the needs of the student population. Once the teachers had identified all the skills for the four-year program, they assigned skills to specific courses and put the courses in sequence. Sequencing was done to ensure spiraling of the skills and to foster cognitive development.

Benjamin Bloom's *Taxonomy of Educational Objectives, Handbook 1: Cognitive Domain* (1956) was used as a guide to facilitate the incorporation of higher level thinking skills and to ensure that the skills moved from the simplest cognitive level to the most complex. (See Figure 3 for an example of spiraling reading skills.) The final step of the process was the

Skills Attacked	Year ____ Course: Fall ____ Spring ____				Year ____ Course: Fall ____ Spring ____				Year ____ Course: Fall ____ Spring ____			
	Worked On		Objective Met		Worked On		Objective Met		Worked On		Objective Met	
	F	S	F	S	F	S	F	S	F	S	F	S
The student will recognize, comprehend, and produce:												
I. Form Words												
A. Nouns (in context)												
B. Verbs (action verbs in context)												
C. Adjectives (in context)												
D. Adverbs (in context)												
E. Pronouns												
1. Personal												
2. Demonstrative												
3. Indefinite												
4. Intensive/Reflexive												
II. Structure Words												
A. Determiners												
B. Linking verbs and action verbs (in context)												
C. Modals												
D. Prepositions												
III. Kernel Sentences												

Figure 1
Cognitive Skills Checklist
English Language

development of a workable format so that the checklist could be used easily by the English teachers in the department.

The final design of the checklist functions in three basic ways:

As a guide—The checklist is a guide for teachers, helping them identify specific skills to be taught in a course.

As a spiral—By identifying a sequence of skills for each course, the checklist shows how the skills are to be spiraled. (The information is on the master copy of the checklist but not on each individual checklist.)

As a recording device—The format of the checklist allows it to be used as a record of individual students' progress in each skill area. It allows the teachers to identify areas of strengths and weaknesses easily and to share the information with the students and their parents. The checklist facilitates individual planning and additional skill reinforcement. Finally, by indicating skills to be introduced and reinforced, the checklist helps the next teacher continue the skills spiral for each student.

"The initial focus. . .was the incorporation of reading skills into every course."

Incorporation into the Curriculum

The skills checklist was shared with the English Department in the fall of 1981 so that the staff had an opportunity to review the format and recommend revisions. The next step involved developing strategies for incorporating all the skills into the English curriculum. The initial focus of department members was the incorporation of reading skills into every course. The teachers focused on reading skills first because these were the skills they felt the most comfortable teaching. Two reading resource teachers were designated to work with teachers and small groups. The reading resource teachers compiled information, activities, and materials in notebooks that were to be used for sharing ideas to help implement various reading skills. They also observed classes and provided feedback and suggestions. The resource teachers

Skills Attacked	Year ____ Course: Fall ____ Spring ____				Year ____ Course: Fall ____ Spring ____				Year ____ Course: Fall ____ Spring ____			
	Worked On		Objective Met		Worked On		Objective Met		Worked On		Objective Met	
	F	S	F	S	F	S	F	S	F	S	F	S
II. Comprehension The student will: A. Respond to questions on three levels when given a passage on his/her instructional reading level. 1. Literal Level a. locate information b. recall information c. locate significant details d. recall significant details 2. Interpretive Level a. describe events b. distinguish fact from opinion c. find proof d. draw conclusions e. predict outcomes f. make inferences g. compare ideas h. determine cause and effect i. discuss/define/debate material read j. find examples of false inferences, propoganda, and half truths												

Figure 2
Cognitive Skills Checklist
Reading

"Group efforts of department members helped reduce the individual frustrations involved in starting a new program."

were available to give demonstrations and workshops to help integrate reading skills into the curriculum.

To coordinate instruction better, department members who taught the same courses worked together in small course guide planning groups (CPGs). The CPGs met weekly to develop skill activities, discuss strategies, and share ideas for teaching various skills. The groups also worked closely with the reading resource teachers. The CPGs were instrumental in helping to incorporate reading skills into the courses. Group efforts of department members helped reduce the individual frustrations involved in starting a new program. The initial step of focusing on one skill area and working as a team helped to make application of the checklist more manageable and ensured its success.

Once the department became comfortable using the checklist, it was

Skills Attacked	Year ____ Course: Fall ____ Spring ____				Year ____ Course: Fall ____ Spring ____				Year ____ Course: Fall ____ Spring ____			
	Worked On		Objective Met		Worked On		Objective Met		Worked On		Objective Met	
	F	S	F	S	F	S	F	S	F	S	F	S
I. Develop a paragraph/paper from a topic sentence.												
II. Develop a paragraph/paper using:												
A. Order of time												
B. Order of importance												
C. Order of space												
III. Write a composition including an introduction, body, and conclusion.												
IV. Write a composition using transitional expressions.												
A. Simple progression in time series (then, later, at last, next, first, second, finally)												
B. Logical argument (but, however, nevertheless, on the other hand, furthermore, as a result)												
C. Series of examples (for example, for instance, to illustrate)												

Figure 3
Cognitive Skills Checklist
Composition

easier to expand the focus to include grammar and composition skills. The same approach used for reading was applied with CPGs using the services of grammar and composition resource teachers. At the end of the 1981-82 school year, the department evaluated the overall success of the skills checklist. Copies of the checklist were sent to several deaf education specialists, and comments and suggestions were sought. Based on this input, the department made revisions and agreed to continue using the checklist during the 1982-83 academic year.

Conclusion

The MSSD English Department is continuously revising the checklist and exploring ways to make its use more effective. Computerization of the checklist currently is being investigated. The English skills checklist has been an invaluable tool in ensuring spiraling of skills into the curriculum. Through the use of this integrative approach toward teaching English to deaf high school students, the department hopes to see significant improvement in the three skill areas of reading, composition, and grammar, as well as in the area of cognition.

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Sexuality Education at MSSD

Max Fitz-Gerald

Stanford Blish published a series of articles in the early 1940s on the sex education of deaf children. These constituted the first efforts to develop professional and parental awareness of the need for sex education programming for hearing-impaired children. These articles received mixed responses and met with limited success. However, by the late 1950s, various schools for the deaf had begun to implement courses on health and hygiene. In 1966, a survey conducted by Craig and Anderson indicated that 50% of the larger residential schools for the deaf had a family life and sex education class. In 1972, Scott and Adams (1974) conducted a similar survey of schools for the deaf that indicated that 70% of the 56% of those responding to a survey taught sex education. However, this author's experience as an educator, counselor, and administrator in residential schools has been contrary to the high percentages found in the former two studies.

Needs Assessment

Therefore, in Autumn 1974, with the assistance of the Office of Public Services and the Office of Demographic Studies at Gallaudet College, Fitz-Gerald and Fitz-Gerald developed and disseminated a 24-item survey to 112 public and private residential facilities for the deaf. Of the 96% that returned the survey, 66% indicated that they provided a formal program in sex education. In an attempt to validate this percentage, the schools were asked how many hours per year were devoted to the formal teaching of sex education. Responses varied from as high as 720 hours per year to as low as 1 hour per year. The 720 hours per year response is somewhat questionable, since a child generally spends only approximately 720 hours per year in school. Based upon this response and additional written comments, the conclusion was drawn that much of the programming in sex education for deaf youth is short term and/or crisis oriented in nature.

It was also determined from the survey that classroom teachers were being requested to assume responsibility for 70% of the instruction time. Concern for how a teacher could assume this responsibility without appropriate training in sex education—training which normally is not provided in deaf education teacher-training programs—prompted investigation. Research was initiated to try to determine exactly what each of the various teacher-training programs provided in the way of sexuality training.

A telephone survey of 71 training programs was conducted. The survey revealed that only one teacher-training program for educators of the deaf provided a specific course on the teaching of sex education. Based upon these findings, the conclusion was drawn that the quality of instruction provided in residential schools is, at the least, questionable, because most teachers of the deaf generally have not received sufficient training in sexuality education. Currently, sex education is the only subject area for which teachers do not have to be certified.

Psychosexual Development and Deafness

There have been only two major works dealing inclusively with the psychosexual development, sexual behavior patterns, and sexual problems of deaf people in America. These are Myklebust's *The Psychology of Deafness* (1964) and the study entitled *Family and Mental Health Problems in a Deaf Population* (1969) by Rainer, Altshuler, Kallman, and Deming. Myklebust's work offers the only formal postulates toward a theoretical understanding of the psychosexual implications of deafness. Rainer et al.'s work deals with a single study of a sample drawn from the total deaf population of New York State. Their work is less concerned with establishing an adequate theory regarding deaf sexuality than it is with providing actual empirical data on observable patterns of sexual behavior among the deaf during their school years and determining the implications such data may have for the future planning of mental health programs for the deaf.

The research by Rainer et al. in 1969 found that sexual delinquency was a more frequent problem in the deaf population than in the hearing population. According to his team, sex offenders and prostitutes constitute the smallest number of arraignments in the general American criminal population. However, 37% of the arraignments of deaf Americans were for sex offenses, excluding prostitution. It is difficult to conclude the reasons for this difference, although Rainer et al. suggest this may be a reflection of general immaturity, a dire lack of sex education and family life education, and the influences of residential school living. Research concerning the mental health of deaf youth by Schlesinger and Meadow (1972) indicates that 1 out of every 8 deaf students is severely disturbed, while only 1 out of every 42 hearing students is severely disturbed.

Campbell (1979), in his work on homosexuality among the deaf, states that the major conclusions to be found in both Myklebust's and Rainer's studies are as follows:

1. Isolation is, perhaps, the single most important factor in the emotional adjustment of the deaf child.

"The ability of a faculty or staff member to respond appropriately can have significant influence on the behavior of the student."

2. Deaf children appear to form less adequate social relations than hearing children.
3. Psychosexually, the deaf child is more immature and confused than the hearing child, perhaps because he/she does not receive the extra verbal messages within spoken communication (innuendos) that so often carry the biases and prejudices that characterize everyday conversation. This can result in their not internalizing the normal taboos related to sexuality.
4. It appears that deafness interferes with normal childhood identification, both with the same-sex parent and with same-sex peers. This could conceivably interfere, as well, with gender/role identity development in deaf children, which may be related to development of sexual behavior patterns. (p. 22)

MSSD's Evolving Program

The Model Secondary School for the Deaf has and is attempting to define, develop, and implement a sexuality program for deaf youth. Efforts do not always meet with total success or attainment of goals. Therefore, the sexuality program is continually evolving and changing in an attempt to understand and respond to students' psychosexual needs and concerns. This process of evolving programming is presented herein.

Learning about Our Sexuality

Learning about sexuality—what it means to be male or female—occurs both formally and informally from birth until death. Most people have numerous daily opportunities to learn about their own sexuality and that of others. For instance, most people learn about sexuality from personal experiences, talking and reading about sex, and listening to and watching others.

A personal disability, however, can impede one or more of those approaches. For the hearing-impaired person, the opportunity to talk with parents or peers can be limited, as can be the ability to listen to conversation, radio, or television. The ability to read many of the publications on sexuality also may be impeded. Hearing-impaired persons may be left with only two primary means for learning about their sexuality—personal experience and watching others.

Such learning limitations impose an even greater burden on deaf students, making it imperative that the home and school form a partnership to support deaf children in learning about themselves and their sexuality.

The Model Secondary School for the Deaf recognizes that the school cannot replace the family as the primary sex educator, but it can serve as an adjunct to this parental right and responsibility. Parents are seen as the primary sex educators of their children, with the school working to support them in that role by providing classes for children as well as workshop opportunities for their parents.

What Is Sex Education

Education for sexuality at MSSD is coordinated by the sex education specialist. This position was created almost five years ago by Dr. Robert Davila, Vice President of Pre-College Programs, who had the foresight to recognize the need for leadership and expertise in this very sensitive area. The responsibilities of the sex education specialist at MSSD include (a) classroom teaching; (b) student counseling (c) inservice training and support of faculty and staff; (d) curriculum and materials acquisition, development, and modification; (e) leadership of the Sex Education Advisory Committee; and (f) provision of support for parents via workshops and conferences.

Instruction in sexuality occurs in three ways at MSSD: informal daily instruction, infused objectives instruction, and comprehensive instruction.

Informal daily instruction consists of spontaneous, informal opportunities that arise when faculty and staff members attempt to respond to the numerous and varied situations involving student interactions, questions, or concerns about sexuality. The situations may range from simple matters of socially inappropriate language and signs to more involved explicit sexual behavior. The ability of a faculty or staff member to respond appropriately can have significant influence on the behavior of the student and ultimately on the school environment. Eash MSSD faculty and staff member is a potential sex educator who can play a very important role in the sex education of students.

Infused objective learning occurs through selected classes and use of clinical and support services, the student health services, and dormitory discussion groups. Objectives for dealing with sex and family roles, human development, contraception, reproduction, genetics, sexually transmitted diseases, and sexual abuse are incorporated into science, social studies, home economics, and biology classes.

Counselors, social workers, psychologists, school nurses, and residence hall advisors may also provide instruction and counseling in sexuality. The extent of instruction or counseling provided by any of the people listed above depends on their comfort with the subject and their knowledge and skill in teaching and counseling. For example, instruction or counseling may focus on a single aspect of sexuality, depending on student interests and needs.

"Parents and school are partners in the sexuality education of each child."

Comprehensive instruction is provided first in a separate, distinct sex education class offered as a one-semester elective for all new students. Second, it is incorporated as part of the senior health class for six weeks of intensive instruction. Those two approaches ensure that considerably more time is devoted to the teaching of sexuality than is afforded through informal or infused instruction. The comprehensive approach allows time to focus developmentally on sexuality instruction. Classes consist of lectures and group discussions aimed at providing the students with an in-depth awareness and appreciation of what it means to be a male or female in today's culture.

The Sex Education Advisory Committee

MSSD has an ongoing Sex Education Advisory Committee, with members drawn from the school and the community at large. Membership reflects both the school and the local community in order to allow input from the various groups that make up the MSSD community. Most members have been asked to serve on the committee, but there also is opportunity for volunteer membership. The committee consists of parents, students, administrators, teachers, residence hall advisors, school counselors, nurses, and community support individuals. It meets three to four times a year.

The primary purpose of the sex education advisory committee is to serve as a resource to the school administration. The commitee functions democratically; the representatives reflect the desires, opinions, and needs of their larger groups. Each committee member has a responsibility to

1. assess the desires, goals, and expectations of their group regarding sex education programming;
2. share this information with the committee;
3. keep their group informed about the work of the committee; and
4. make recommendations to the MSSD administration for programming and materials.

Parent and School: Partners in Sexuality Education

Numerous studies show that parents wish to be the primary sex educators of their children, but they often find that role difficult. Many parents report feelings of embarrassment and discomfort when discussing sexual issues with their children. Many feel they lack the knowledge and skill as well.

Dr. Lee Murphy, Dean of MSSD, and his administrative team believe the parental role as primary sex educators is vital. The philosophy of MSSD's sexuality program, therefore, is that parents and school are partners in the sexuality education of each child. That partnership is based on the belief that by working together, parents and school can provide students with the very best education for sexuality.

Conclusion

Our professional knowledge and understanding of the psychosexual development of the deaf is in its neonate stage. Professionals continue to apply methodologies developed upon hearing norms, which may or may not be applicable to the deaf. There appears to be considerable need to establish a better understanding of our methodologies and their potential effect upon the deaf child's psychosexual development. Without such understanding, our efforts, though founded upon good intentions, may not be fully productive.

Your questions, comments, and feedback are solicited. MSSD would like to hear how other professionals in the field are responding to this often difficult and challenging area of instruction. Through such sharing of ideas and expertise, mutual learning can occur. This exchange of information will result in improvement of programs and services and enhancement of the ability to provide the very best in sexuality instruction and services for deaf students.

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The Training Apartment Program

Kathy Derry Stoehr

Hearing-impaired children miss a wealth of information casually shared among family members. Spoken conversations about household matters give children a foundation for future experiences. Residential schools for the deaf need to compensate for students' lack of incidental learning normally available in the home situation.

Impetus for the Program

Staff at the Model Secondary School for the Deaf (MSSD) have noticed that most of the students there lack experience in home management. They need training in nutrition, recipe reading, and food preparation. For instance, students have demonstrated difficulty with food-related vocabulary. An example of this might be understanding the word *brown* when it is used as a verb. As a result of that one misunderstood word, the students might skip that direction on a recipe and use raw ground beef. Many students also are unaware of safety procedures in a home. In addition, deaf students need special assistance with understanding the vocabulary used in legal documents (e.g., leases), and some students have shown lack of experience with budgeting.

Program Design

The MSSD Training Apartment Program (TAP) attempts to help in these areas by providing students with an apartment experience. The program is designed to promote student responsibility and independence and to give students the tools to make a smooth transition into postsecondary living experiences. It provides experience with budgeting, planning, shopping, cooking, and problem solving. All students ages 16 and over who pass a prerequisite home economics course are eligible to apply for TAP. The program lasts for one semester, during which the students live in an apartment within a small and attractive residence hall and are enrolled in the apartment-living home economics course in the academic program. Participants in TAP earn one credit toward graduation but gain much more in hands-on experiences that they might otherwise miss.

In order to create a realistic atmosphere, each apartment is established as an independent rental property and the students are treated as tenants. Each student must apply and be recommended for the program by parents and two counselors. The prospective tenants are interviewed and selected on the basis of maturity, enthusiasm, and need for experience. The facilities can serve only 30 students per semester, so students tend to feel very positive about earning the privilege. When accepted into TAP, students are required to sign a lease and are held responsible for abiding by it. They pay monthly rent, water, electricity, and food bills with facsimile money earned by attending required workshops and TAP functions.

For example, an apartment group of four students might pay $400 for rent, $12 for water, and $48 for electricity every month. The amount they spend for food varies weekly and reflects exactly the cost of the groceries they buy. To make these payments, each student receives a paycheck that reflects the previous week's work. Money is deducted if a student misses a required meeting or has requested either annual or sick leave. After taxes, a full week's net check is $48. Students can earn overtime pay for attending optional self-enrichment seminars, chairing committees, or applying for such "moonlighting" jobs as decorating the lobby or working on a special project. The budgets are designed so that students generally need to do some extra work to earn enough cash each month.

One major value of the program is that the students plan, shop for, and prepare nine meals a week—five breakfasts and four dinners. The students in each apartment group work together to find recipes, make the shopping list, and prepare the meals. They are free to plan any kind of menus as long as they are nutritionally balanced and do not exceed the limit of $20 per person per week. Most students have difficulty budgeting during the first few weeks, but after some experience with pricing, they learn to plan meals appropriately. Many TAP workshops focus on following recipes, cooking and storing foods properly, and apartment cleaning. The students then practice what they learn in class and in the workshops. The daily TAP routine can be quite a challenge even to the best students, but they usually are comfortable enough to make mistakes and learn from them. Also, because they work closely together in small groups, the students learn from each other.

Psychosocial Aspects

The TAP apartment groups are not always harmonious. When quarrels arise, the groups use the reality therapy process to work toward solutions. They meet to discuss the problem and try to deal with the situation objectively. The students suggest solutions and discuss them. The goal of the meeting is member consensus on a solution. Some apartment mates meet weekly to share positive and negative experiences, a practice that helps avoid major

problems. It is important for students to resolve conflicts in a mature manner with a minimum of staff involvement. After the resolution of a problem, the group tends to become stronger and more cohesive. The students also gain experience in dealing openly and honestly with their feelings and in confronting another person or group constructively.

The students benefit in many ways besides learning to cook and budget. TAP's smaller groups usually receive more individualized attention than is possible in a large residence hall. The students are respected and highly praised for their work, a condition that also enhances their motivation and enthusiasm. The students find a sense of purpose and relevance in what they are doing. They are proud of their accomplishments and willingly accept and carry out school projects.

TAP is the most demanding place for students to live at MSSD. The program is time consuming and can be tedious; but it is consistently popular, and students sell it to each other. Residence hall staff people enjoy working with TAP; there is so much to teach and the students are genuinely involved. Because the students are so busy, fewer discipline problems arise, which help staff members and students feel comfortable together and build stronger relationships. In a recent show of appreciation, a group of TAP students planned and hosted a tea for the entire MSSD staff.

Helping Special Needs Students

TAP accepts students who experience trouble in other residence halls. The one semester in TAP gives such students the opportunity to succeed, a chance for some extra attention, and a break from the regular residence hall routine. TAP has helped several students in this way.

Another group for which TAP provides special services is the Life Adjustment Program (LAP) at MSSD. LAP students have various learning problems and need training in basic living skills. These students are grouped together for one year of intensive training with special emphasis on independent living.

Conclusion

TAP is in its seventh year at MSSD. The students find it challenging and enjoyable; each spring there are approximately 150 applicants for 60 places.

Similar programs could be incorporated at other schools within existing residential facilities and budgets. The first TAP group at MSSD renovated two rooms of a 100-year-old dormitory using old kitchen equipment and appliances. The original program focused heavily on cooking, but the concept can be adapted to address the needs of any student group.

TAP is a positive place to learn. It is an important step in providing students as much experience as possible in independent living. After completing TAP, the students are able to apply their experiences to the real situations they encounter. Of course, no program can address every problem that will arise, but TAP students are better equipped to handle the familiar and know how to seek help with the rest.

We Are Family: Parent Programs at MSSD

Nancy S. Cowan

It is generally agreed that effective parent education programs are important in schools (Seeley, 1981; Smith 1981). One of the best reasons for establishing a parent education program is to help parents become aware of the relationship between the child's home environment and success at school. Even at the high school level, parent education programs help to improve home life and communication between parent and child by permitting families to share their concerns, experiences, and feelings with other parents and with school personnel. The interaction also benefits the school, fostering better feelings between school staff and parents, lessening the fear of parent/teacher contacts, and improving class situations.

Many writers have discussed the importance of working with parents of handicapped students (Buscaglia, 1975; Cohen & Gloecker, 1976). A parent education program can give parents of handicapped children an opportunity to compare experiences and discuss common problems. Although individual conferences may be effective and necessary for discussing specific problems, group sessions have the advantage of showing parents that their concerns are universal. Physical, mental, and emotional handicaps often create intense guilt feelings in parents; learning that others have the same feelings can be especially valuable, even for parents of adolescents.

The Model Secondary School for the Deaf (MSSD) is largely a residential school; most parents live far from the Washington, D.C., area. The distance between home and school presents a challenge in providing programs for parents. Because MSSD is a secondary school, it must meet the special needs of parents of adolescent deaf children. In an effort to determine parents' priorities for information that could be provided by the school, a questionnaire was sent out to them during the 1980-81 school year. The responses reveal some interesting facts (see Table 1). Parents gave low priority to early development, etiology of deafness, and family relationships surrounding a deaf child. For parents of students who are at least 14 years old, those issues are apparently no longer of prime concern. The three topics related to legal issues also received a fairly low priority. As might be expected, parents placed highest priority on topics related to careers, employers, postsecondary opportunities, and curriculum.

In addition to the questionnaire, staff solicited suggestions for parent education programs from MSSD personnel, from parents during IEP conferences, from area parent groups, and from the Parent Advisory Council.

The slate of parent activities for 1982-83 was designed to cover the topics requested by parents. It was also designed to allow parents to have contact with other parents and with school staff both in their own localities and at the school. The major aspects of the parent education program for 1982-83 included the following:

1. The Parent Advisory Council
2. Local meetings of parents
3. Regional meetings of parents
4. An educational program for all parents
5. An annual *family weekend*

This article will cover three aspects of the parent education program—the New Parent/Student Orientation, regional and local parent groups, and the Parent Advisory Council.

New Parent/Student Orientation

A comprehensive orientation for new students and their parents has been a high priority at MSSD for at least six years. Some families have had no experience with residential situations. In other families, the deaf child may have attended a state school during the week and returned home every weekend. In these cases, parents have been able to stay informed about class assignments, homework, peer interactions, teacher-student relationships, and other aspects of school life. Because many families live great distances from MSSD, many students do not return home every weekend. It is therefore especially important that parents understand as much as possible about MSSD and the stituation in which their children will be living.

Our experience has taught us that everyone benefits when parents receive clear, complete information about what to expect from MSSD at every step, from the beginning of the admissions process through graduation. Information given to parents ranges from an explanation of the school's major goals (developing independence and acceptance of responsibility by each student) to tiny details of travel procedures for weekends on which the school will be closed. Supplying complete information is not always an easy process; this approach forces school personnel to make decisions earlier than might be expected so that parents will be able to plan for future activities.

The Admissions Process

Orientation begins when the admissions officer sends information to prospective students and their families. Families are notified about the admissions process, the two days of intake procedures required at MSSD, and the fall New Parent/Student Orientation Program. As a student reaches the intake part of the admissions process, an effort is made to inform the student and parents about MSSD

life. Through interviews, tests, and a one-night stay in the dormitory, school personnel gather information about the student while giving information about the school. An admission decision is reached after intake is completed; the school then assigns a student advisor, who begins to share further information with the family. The admissions officer maintains contact with the family throughout the summer. The advisor begins to send program information to the family, and, later in the summer, the resident advisor sends information on the residence programs.

Table 1
Ranking of Topics Chosen by Parents for Parent Education

Topics	Number of High-Interest Responses	Rank
Choosing a career	79	1
Information about postsecondary programs and career opportunities	74	2
Employers' attitudes	73	3
Curriculum (language, reading, math, science)	71	4
Understanding test results (IQ, achievement)	64	5
Social interaction with hearing peers	61	6.5
Sex education	61	6.5
Adolescent development	60	8
Drug abuse education	57	9
Psychology of deafness	56	10.5
How to provide follow-up at home for things taught in school	56	10.5
Parent groups—why and how	53	12
Understanding our state's laws	43	13
Understanding PL 94-142	41	14
How to approach lobby groups	37	15
Parents' feelings about having a deaf child	32	16
Hearing siblings' reactions about a deaf brother or sister	27	17.5
Pre-teen development	27	17.5
Grandparents' and relatives' reactions about a deaf child	24	19
Early development of a normally hearing child	20	20
Types and causes of deafness	19	21
Understanding the audiogram and amplification	18	22

Although the exact time and schedule of the fall orientation varies from year to year, certain activities and topics are always included. Each year, the program is evaluated and modifications are made for the next year. The number of students being admitted, the faculty and student calendar, the date of Labor Day, housing arrangements, and other factors influence the program. The IEP (Individualized Education Plan) planning conference is the most important activity of the two-day orientation. A parent must be present to negotiate the Individualized Education Plan.

Orientation Activities

When possible, low-cost housing arrangements are made on campus for families. Some families choose to stay in local motels and use the weekend before orientation for sightseeing in the Washington, D.C., area. During orientation, meals are available in the school cafeteria, so that parents may sample the food in the dining room where the students will eat throughout the year. Everything runs as it does during the school year, so that parents can share the experiences their children will have.

Families are asked to arrive on campus the night before the orientation program begins or very early on orientation day. A packet is provided containing a map of the school, schedules for the two days, an evaluation form, and other information. A faculty or staff member serves as the family's guide for the first day of orientation. The guide has previously received information about the family and instructions on procedures for the day.

The activities are planned with a balance of educational and social activities for large groups, small groups, and individuals.

Large-group activities include a welcoming session lead by the Dean, Principal, and Director of Student

"An information center is set up on one of the two days of orientation."

Life; an orientation to educational planning, to introduce the IEP; an introduction to deafness; and a student panel that answers parents' and students' questions about MSSD.

Small-group activities include a presentation of the student handbook, presentation of MSSD's rules and procedures, a presentation on communication, an overview of the residence program, meetings and social activities in the residence hall, and an abbreviated school day in which parents and students follow the students' class schedule.

Individual activities include the IEP conference, moving into the residence hall, opening the student bank account, obtaining a student ID card, and visiting a variety of booths in an information center.

Providing Information

An information center is set up on one of the two days of orientation. A variety of organizations, campus services, MSSD programs, and commercial vendors host exhibits. Each year, new booths are added to address concerns of parents and to provide new information. The Fall 1982 orientation featured booths with information on academic programs, athletics, religious services, clinical and support services, the diagnostic/prescriptive program, American Field Service, the performing arts department, the yearbook, the Junior NAD, student health services, the International Association of Parents of the Deaf, a research project on adolescent development, the Gallaudet Department of Safety and Security, sex education, special services, and several commercial exhibits of visual communication aids.

MSSD Staff Responsibilities

Faculty and staff guides are asked to learn about each family's concerns and priorities and to encourage them to visit booths that will provide the information they need. For example, some families are concerned that their children will be away from home on weekends and will not be involved with a church. Representatives from campus ministries (a unit at Gallaudet College that provides services of a religious nature) can explain their programs to these families. Other parents may be concerned with their child's health problems and may want to meet with infirmary personnel to work out the details of medical management. For many families, participation in athletics is a major interest.

Although setting up the information center may seem like a lot of work for a half day, it has proved very beneficial. Each year, more groups are willing to participate and provide information for families. An effort is made to discourage groups from selling things to families at this time—the emphasis is on education. There are other opportunities during the year for the bookstore and student groups to sell products to parents.

Throughout orientation, the involvement of dormitory staff is crucial. From the initial view of the student's room to the time the parents leave for home, the staff is involved in solving minor problems with room assignments, unpacking, outlining dormitory regulations, and generally making the family comfortable with the residential situation. During the evenings each student dormitory offers activities, again stressing the typical situation and avoiding formal, artificial presentations. This approach has worked so well that many parents have complained that, by the time they leave for home, the students are already too involved with new friends in the dormitory to show up and say good-bye. Although some parents may feel left out, most are relieved that the students have adapted so quickly to the new environment.

Additional Aspects

Two other aspects of the New Parent/Student Orientation should be mentioned: the active involvement of MSSD's students and the vital role of the Parent Advisory Council. The students, who are involved in the school's leadership program, serve on a student panel, help new students move into the dormitories, show them where things are, and explain dorm procedures. These students also prepare a large cook-out lunch on one day of the orientation activities, and they provide assistance for minor emergencies that arise during the two days. Their participation has been invaluable, not only because of the work they perform but also because of the peer models they provide for new students. New families can see for themselves the kinds of responsibilities students accept at MSSD and their mature approach to school life.

Members of the Parent Advisory Council and other parents of already-enrolled students also provide support and a variety of services during orientation. They are available to talk with new parents, share concerns, and answer questions.

Regional and Local Parent Groups

Even after fall orientation, MSSD continues parent contact and parent education. Advisors, resident advisors, counselors, teachers, and other MSSD personnel are expected to keep in touch with parents throughout the year. Parents receive report cards (progress reports) every nine weeks. Extensive materials are sent at the beginning of the second semester to prepare parents for the spring IEP conference and yearly placement review. In addition, a structured program of parent activities is also part of the MSSD year.

"Students and parents visited with a variety of deaf workers who shared information about their jobs and how they obtained them."

Parent Nights

Parent nights are held in the fall and spring. Originally, certain parent programs were held at the school during the year, but because most students come from long distances, many families were unable to attend and consequently, some students and parents felt left out.

Three years ago a group of parents expressed concern that they never saw their children's teachers. They requested a traditional back-to-school night similar to those held in public schools. In response to this request, two evening parent meetings were scheduled in 1981-82. Originally, invitations were sent only to parents in the local area (D.C., Maryland, and Northern Virginia). Later all parents in the five-state primary service area were included. The fall meeting was a traditional back-to-school night with a shortened class schedule and time at the end for meetings with counselors and dormitory personnel. Students met parents at the beginning of the evening and went to classes with them. About 80 families sent representatives. Both parents and teachers responded enthusiastically. Although teachers had very small classes (with no students at all in some cases), they enjoyed the interaction with parents and students. Parents were very pleased with the opportunity to meet teachers and to understand more clearly what their children were saying about their classes. The only negative aspect of the evening was that parents who lived outside the primary service area complained that they were not invited.

During the 1982-83 school year, all parents of MSSD students were invited to the fall back-to-school night. The dormitory was closed for the weekend. Parents who drove to school for the evening were able to take their children home for the long weekend. Money saved on the students' fare for the homebound trip helped to pay some of the expense of the parents' drive to the school. Students whose parents did not attend left campus at 3:00 p.m. for the weekend, rather than staying on and feeling left out. More than 130 families were represented; parents came from as far away as Maine, Ohio, and Florida.

Although parents did not express a need for two back-to-school nights, they did want a spring meeting. In the spring, MSSD offered a program on careers and career planning. The meeting also drew a large, enthusiastic group. Speakers from the Career Development, Educational Planning, and Clinical and Support Services Departments provided an overview of career planning at MSSD. The speakers emphasized how the planning ties in with the students' experiences before they attended MSSD and with their future prospects in education, training, or work. After the group session, students and parents visited with a variety of deaf workers who shared information about their jobs and how they obtained them. The workers had an opportunity to provide information, to demonstrate their work, and to use audiovisual materials or other aids. A faculty or staff member served as interpreter for each worker to facilitate communication and to keep the focus on career development. Both the format and the topic were successful.

Forming Local and Regional Parent Groups

Area parent groups are organized wherever there are enough MSSD families to support them. For a number of years there have been parent groups in Southern Virginia, Philadelphia, Pittsburgh, and New Jersey. More recently, groups have been organized in New England, the Atlanta area, and Delaware. Large groups that cover several areas include Western Pennsylvania/Ohio/West Virginia, and Eastern Pennsylvania/New Jersey/New York. A Northern Virginia group meets in cooperation with people from local education agencies.

MSSD sends out at least one representative, but usually a team of school and dormitory personnel with an interpreter, to each area parent meeting. The primary purpose of the area meetings is to establish communication between parents and MSSD; another is to provide a support group for area parents. One member of the Parent Advisory Council at MSSD usually coordinates each area meeting, but as many other parents as possible are involved in the planning process. MSSD personnel provide support services, such as mailing, telephoning, arranging payment for rooms, and arranging programs, as requested.

Area parent meetings take many forms, depending on the needs of parents in the area. Some are small, informal meetings in a parent's home where parents and MSSD staff share information. Some large, more formal meetings include a business portion and an educational program. Meetings range in size from 3 to 50 parents and have been held in homes, schools, hotels, and libraries. Parents usually furnish refreshments and arrange carpools to encourage attendance. Meetings are generally held on Saturday afternoons to allow for travel, but some are held on Sunday afternoons or weekday evenings. If students are home from school, they may accompany parents to the meetings, but usually meetings are held while students are at school. Attendance is often poor at meetings scheduled during school vacations. Families tend to plan activities while

"Students are proud of their parents' participation in the school."

students are home and prefer not to use that time for a meeting.

One goal of the parent education program at MSSD is to hold fall and spring parent meetings in each area. Invitations are usually sent to all parents who live within 100 miles of the meeting site. Parents whose children have applied for admission to MSSD for the following year also are invited. Area meetings are growing in number and improving in quality every year. Although travel costs are considerable, it is believed that the benefits to MSSD, parents, and students far outweigh the costs.

Parent Advisory Council

The Parent Advisory Council (PAC) is made up of 12 parents who come to MSSD twice a year for meetings, observation, discussion, and to make recommendations for improving the program. Members of the PAC are nominated for terms of from one to three years. There is always one parent of a student who has graduated from MSSD on the council. Each member represents an area where there are large numbers of parents. At least one member is chosen who lives in an isolated area and who can speak for those who do not have close contact with other parents. As much as possible, a representative balance is maintained according to sex, hearing status of parents, student grade level, and area of geographic residence. Each year about one-third of the PAC changes to add new voices.

The fall meeting of the PAC is held as early as possible in the academic year while still leaving time for the area meetings to precede it. It is sometimes scheduled as part of a large event such as homecoming or a sports or drama activity. The spring meeting of the PAC usually is held late in the year, after the regional spring meetings have taken place, and is also connected with a major school event. Both meetings are intended to follow the area meetings, giving PAC members an opportunity to meet with other parents and submit PAC agenda items that fit their needs. If area meetings do not occur first, PAC members survey the parents they represent by phone or letter.

PAC meetings begin on Wednesday afternoons and continue through noon on Friday. Members are housed in apartments on campus; meetings begin early in the morning and go until late at night. Some of the meetings include only PAC members and an interpreter, while other meetings include MSSD personnel. The officers (a chairperson and a secretary) are responsible for conducting the meetings and recording recommendations. Part of each PAC meeting involves observation of some aspect of MSSD's program that spans the dormitory and academic programs. One meeting may focus on language and communication in school and the communications center in the dormitories. Another may deal with elective subjects and the dormitory's tutorial center, or with math and science instruction and the dormitory's activity program. PAC members recommend agenda items for the business meetings as well as new areas for observation.

PAC members eat all meals with students, interact with students in the early evening before their scheduled meetings, and visit with students throughout their time on campus. The parents try to get insights into the students' view of MSSD, as well as that of the parents they represent. Often students are included on PAC agendas.

MSSD pays all expenses for council members to attend the fall and spring meetings. In return, MSSD derives a great deal of benefit from the council's ideas, commendations, and recommendations. The Parent Advisory Council has been an integral part of the school since its inception and continues to support and challenge the MSSD staff.

Working Together – Parents and Staff

Although this article focuses on three major components of parent programs, there are still other aspects of parent involvement and education. A newsletter published by the Director of Student Life provides ongoing communication between the school and parents. Its primary focus is dormitory activities, but all aspects of school life are discussed. The IEP process, with information and materials provided throughout the year, is an important tool for parent education and communication. At all times, parent contacts with MSSD are encouraged.

Parent communication is as important to MSSD students and staff as it is to parents. In turn, parent support, encouragement, and ideas improve the MSSD program. Parents and staff work cooperatively to provide excellent experiences for students. Students are proud of their parents' participation in the school.

MSSD's commitment to parent education has strengthened through the years. We at MSSD are fortunate to have supportive and knowledgeable parents to work with us in the development of the MSSD program.

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AFS: Promoting Intercultural Exchange

Janne M. Harrelson

Since its inception, MSSD's mission has been to develop innovative programs for the education of deaf adolescents. This charge carries with it the goals of preparing deaf high school students for postsecondary education and training and providing them with skills necessary for everyday life.

MSSD recognizes the link between development of basic skills and the need for a broader, more global awareness of the self in relation to other cultures. Equipping students with an understanding of world affairs and a respect for cultural differences is an important challenge for all educators. Deaf students, in particular, tend to have limited exposure to the amazing diversity of cultures around the world, as well as within the United States. Intercultural exchange provides a dynamic way of teaching students an appreciation for lifestyles and customs that differ from their own.

History of Student Exchange at MSSD

Between 1972 and 1978, various efforts were made to develop an effective student exchange program at MSSD. Correspondence was sent to schools for the deaf in the United States and abroad soliciting interest in such a program. Formal guidelines were established, and the first short-term exchange program was implemented in 1974. The initial emphasis of the program was on domestic rather than foreign exchange. Students were invited to come to MSSD for an exchange lasting from 2 to 18 weeks. During that time they worked on independent projects developed in consultation with teachers at their own schools and at MSSD. They also participated in individualized programs of study and explored Washington, D.C. The MSSD students participating in the exchange were prepared for similar experiences in their host communities.

During 1975-76 the first MSSD student participated in an international exchange. A student in MSSD's Spanish-language program visited Costa Rica for approximately one month. The following year, two students from Costa Rica attended MSSD for a month. Intercultural exchange had become a reality.

The enormous administrative tasks involved in managing a student exchange program were handled by various faculty and staff members in addition to their regular workloads. In order not to "reinvent the wheel," information was sought from many existing national programs of high school student exchange. In 1978, MSSD affiliated with AFS International/Intercultural Programs, becoming the first school for the deaf to do so.

AFS International/Intercultural Programs

AFS International/Intercultural Programs, formerly American Field Service, has been in existence as a student exchange program for more than 35 years. It is the largest privately funded, community-based, international volunteer organization of its kind in the world. In 1981 AFS involved more than 100,000 volunteers and 335 staff members in 54 countries, and over 8,000 students and families (AFS, 1981, p. 2). The number and diversity of participants increase annually. The inclusion of deaf students in the exchange program is a good example of its ever-expanding nature.

AFS maintains the only permanent research department in any secondary exchange organization (AFS, 1981, p. 3). Over the last few years AFS has begun a process of assessment through standard research methods to determine the effects of the AFS experience on students and families. This long-term effort will attempt to gauge program effectiveness beyond the usual anecdotal information reported by participants.

Recently, AFS was named one of the three leading organizations in the International Youth Exchange Initiative sponsored by the United States Information Agency (USIA). This youth initiative is the first nationwide effort to draw attention to the importance of international exchange. It is designed to encourage young Americans to seek cross-cultural experiences and to increase the number of host families involved. Increased funding will be provided to participating organizations through grants from USIA and major corporations. A major public service campaign will begin in the spring of 1983. In addition, 19 cities in the United States have been targeted for the development of community structures for handling the anticipated increase of exchanges. The selection of AFS for participation in this youth initiative is evidence of the high quality of the AFS program and reputation.

The goal of AFS is to promote world peace through people-to-people contact. It is based on the belief that "given the opportunity, people do lay down their misconceptions, and their stereotypes, and their lack of faith that people can walk and talk together and learn from one another" (AFS, 1981, p. 3). The statement of purpose adopted at the AFS World Congress in 1976 expresses that goal.

> AFS volunteers and professional staff throughout the world are moving towards a goal of peace by stimulating an awareness of mankind's common humanity, a wider understanding of the diverse cultures of the world, and a concern for

global issues confronting society. They acknowledge that peace is a dynamic concept threatened by social injustice and economic inequity both between and within nations.

In pursuit of this goal, the core of the AFS experience has been the promotion of relationships in which families, communities, groups, and maturing young persons from different cultural backgrounds share new learning situations related to the purposes of AFS. In addition, through experience and experimentation, AFS has developed and continues to encourage new models and opportunities for exchange that will be beneficial for the development of society.

AFS does not affiliate with any religious, political, or partisan group, but it believes in the value of participating in a continuous process of interaction between cultures both across and within national boundaries.

AFS encourages all participants to involve themselves in situations in which they can apply and project their AFS experience. (1977, p. 1)

The MSSD Chapter of AFS

The MSSD chapter of AFS has grown since 1978 from one member, who managed the myriad responsibilities almost single-handedly for an extended period of time, to its present core group of about 15 adult members and a student club of nearly 25. In addition, many members of the MSSD community provide assistance with specific projects. Involvement with AFS is voluntary and is viewed as an extracurricular activity. Nevertheless, many faculty and staff members have become involved, providing a broad base of support for the program.

Within the adult chapter, areas of responsibility are delegated according to interest. The major areas of responsibility include:

1. *President:* maintains an overview of all chapter activities; guides and oversees the various committees; plans and organizes all aspects of chapter operations; provides a communication link between the chapter officers, students, families, the school and community, area-level officers, and AFS International.
2. *Treasurer:* keeps the financial records.
3. *Fundraising Coordinator:* oversees fundraising efforts.
4. *Student Selection Coordinator:* oversees committee responsible for recruiting, interviewing, and selecting candidates to participate in AFS foreign and domestic exchange programs; ensures correct, on-time completion of applications; oversees the orientation and reorientation of students and their natural families.
5. *Host Family Selection Coordinator:* heads committee that recruits,interviews, and selects host families for AFS students; provides AFS International with complete and accurate descriptions of the family, community, and school, as requested on the application forms.
6. *Student/Family Liaison:* provides orientation and support for host family and AFS student during the exchange; maintains regular contact with both student and family to aid adjustment process.
7. *Short-term/Overnight Exchange Coordinator:* oversees the committee responsible for arranging short-term exchanges between the AFS student club at MSSD and AFS clubs at other high schools, as well as overnight visits by AFS foreign students hosted by other schools in the area.

Additional coordinators are named as new projects arise, (e.g., educational/cultural/social programming coordinator).

The structure of the student club parallels that of the adult chapter. For each area of responsibility, therefore, there is both student and adult involvement. For example, the student club president and the adult chapter president work closely together. The adult chapter president assists the student club president in planning meetings and generally maintaining a good grasp of the workings of the club. The presidents report back their respective groups concerning each other's activities and needs. The student and adult treasurers, host family selection coordinators, and other officers work together in similar fashion. To our knowledge this parallel structure between student club and adult chapter is unique among AFS chapter.

Another unusual feature of the MSSD program is that the MSSD adult chapter is composed entirely of faculty and staff. This is due primarily to the fact that MSSD is a residential school; parents live in all parts of the United States, which makes involvement difficult. Most other AFS chapters, however, are made up of parents and other adults in the community, many of whom may have formerly participated in AFS exchanges as students or host parents. The faculty advisor to the student club is often the only person from the high school to work with the adult chapter.

There are advantages and disadvantages in both situations. MSSD's AFS officers find it beneficial to have support from many areas of the school. Administratively, AFS reports to the Director of Student Life, as do all other extracurricular activities. It is seen as an important element in the 24-hour program of the school. Other AFS chapters have had to struggle for recognition and support from their schools. In addition, faculty and staff members involved in the chapter en-

"Faculty and staff chapter members must also take on such responsibilities as transportation and supervision."

joy working with the students outside the classroom or residential setting.

On the other hand, AFS work is much like a continuation of the school day for many faculty and staff members. It may not provide the needed diversion one often seeks from one's extracurricular involvements. Faculty and staff chapter members must also take on such responsibilities as transportation and supervision, which normally would fall to parents in a nonresidential setting. Another disadvantage is that the MSSD chapter suffers by missing the valuable resources that parents might provide. It is always a challenge for residential schools to promote parent involvement; the AFS chapter could be a prime place for that involvement.

The Finances of the AFS Chapter

The financial responsibilities of the AFS chapter fall into four categories—hosting fees, participation fees for students on exchanges, student club activities, and interpreters.

Hosting Fees

An AFS chapter pays a hosting fee of $975 to AFS International each year that it hosts students. The fee permits the chapter to host up to four students. If no students are placed with a chapter during a given year, regardless of whether the chapter sends students on exchange, no fee is due. (The hosting fee is smaller during the first years a chapter is established.) In addition, the host school is expected to waive or provide tuition and fees for the exchange student. In a residential school, room and board must also be provided at no charge to the student.

The chapter selects an appropriate host family for each exchange student. The host family provides room and board and treats the student as a member of the family. The family does not receive compensation from AFS; however, expenses of up to $50 per month are tax deductible as charitable contributions. All exchange students receive medical coverage and a $20 monthly allowance through AFS.

In addition to paying hosting fees and providing the host family, chapters are encouraged to help defray as many incidental expenses for the exchange student as possible, e.g., yearbook, tickets to athletic and performing arts events, school newspaper, school photograph, etc.

Participation Fees

The participation fees required of students to be placed, either abroad or within the U.S., are primarily the responsibility of the student and the family. The chapter decides how much financial support it wishes to raise to defray student expenses. Chapters are encouraged to do as much fundraising as possible to help qualified students participate regardless of ability to pay. AFS makes a limited number of scholarships and low interest bank loans available to families who qualify.

Student Club

Other expenses are connected with the cultural/educational/social programming of the student club. For example, a club may wish to participate in a short-term exchange with another AFS club. Depending on the time and distance of the trip, money would be needed for transportation, meals, etc.

Interpreters

A unique expense for AFS chapters with deaf students is that of hiring interpreters at various times throughout the year. For example, interpreters are needed when the Washington, D.C. area chapters hold a mid-year conference for all the exchange students and their host sisters and brothers. Interpreters must be present when deaf applicants participate in AFS regional screening interviews to determine their eligibility for the program. There is also a 10-day bus trip every summer for the exchange students before they return home at the end of their stay. In order to make the trip worthwhile, interpreters are needed. The expense for interpreters is significant and must be built into the chapter's budget

Services Provided by AFS

There are numerous advantages in affiliating a student exchange program with AFS rather than operating it independently. As stated earlier, AFS has had 35 years of experience with high school student exchange. They are the experts!

AFS International in New York is staffed by more than 185 professionals who provide support to students, families, and chapters. Those services include (a) student/family selection; (b) student/family placement; (c) predeparture orientation in home country; (d) arrival orientation in host country; (e) 24-hour counseling services as needed; (f) volunteer training; (g) chapter maintenance to ensure local services to participants; (h) enrichment materials and activities, including workbooks and end-of-stay arrangements; (i) promotional materials for chapter use; and (j) local support personnel to advise and assist the chapter. AFS International also coordinates and monitors programs worldwide to ensure quality.

The participation fees paid by the students actually cover only about 65 percent of the costs (AFS, 1978). The balance is covered by the chapter's hosting fees and other contributions received through fundraising efforts

"AFS International is receiving increasing numbers of inquiries from deaf students abroad and is seeking new placements."

conducted by AFS International. The student participation fees do cover the costs of chaperones, orientation, and counseling; administrative and medical expenses; personal allowance (for full-year participants); and general support (e.g., monthly newsletters, periodic workshops).

In addition, AFS believes it is important to include developing nations in the program. This commitment has a direct effect on the budget because travel to and from these countries is expensive and because participants can pay little toward their own fees. For some, the entire participation fee barely covers the cost of travel (AFS, 1978).

AFS Students at MSSD and Abroad

Since 1978, MSSD has hosted deaf students from Belgium, Iceland, Liberia, South Africa, and Sweden, as well as a hearing student from Germany. Through AFS, MSSD students have traveled to Australia, Belgium, Great Britain, Iceland, South Africa, and Sweden.

AFS students (non-deaf) from other high schools have visited MSSD, and our students have gone to their schools. These short-term exchanges provide a good opportunity for visiting students to learn about deaf culture; the exchanges also promote greater understanding between deaf and hearing teenagers.

An Opportunity to Participate

This is by no means an exhaustive report on AFS or the MSSD chapter. It is intended only as an overview of AFS that may provide ideas for its application in other schools or programs for the deaf. Many high schools that have programs for hearing-impaired students already have fully functioning AFS chapters, but they have never thought to involve the deaf students. Now is the time to do so! AFS International is receiving increasing numbers of inquiries from deaf students abroad and is seeking new placements. MSSD hopes to become involved in domestic as well as foreign exchange, a process which means locating AFS chapters at other U.S. schools and programs for the deaf.

The time is ripe to explore establishing an AFS chapter at your school. For further information on establishing a chapter, or to locate the chapter nearest you, contact: AFS International/Intercultural Programs, 313 East 43rd Street, New York, NY 10017, 212-661-4550. AFS has been successfully promoting intercultural awareness and exchange with non-deaf students for more than 35 years. Deaf students are now able to take advantage of this outstanding program.

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Educational Disorders: An Approach to Programming for Student Needs

Wanda Hicks

Programming to meet the needs of students with multiple educational disorders is a major concern for school administrators. As the number of students identified with multiple disorders increases, the need for greater funding becomes evident. Under the present circumstances (a lean economy) schools are forced to find innovative and less costly ways to provide support. Utilizing existing data, materials, and strategies found to be successful in other programs may be helpful as schools seek to satisfy this need without engaging in expensive experimental programming. The program described in this article may serve as a model for other schools. Many of the components and procedures are available without the need for extensive developmental work and may be implemented with available resources.

Defining Disorders

Disorder is a common term in current educational literature. Frequently, educators have accepted medical definitions of disorders and have tended to group students with similar disorders together, as if they had similar or equal skills and abilities and, accordingly, the same educational needs.

Medical dictionaries provide fairly complete descriptions of the physical nature of disorders, but additional information and interpretation are necessary for educational program planning. *Stedman's Medical Dictionary Illustrated* (1977) defines disorder as follows:

> A disorder is a disturbance of function, structure, or both, resulting from a genetic or embryologic failure in development, or from exogenous factors such as poison, injury, or disease. It may be inborn or acquired.

It may be useful here to distinguish between what constitutes a disorder and the extent to which a disorder or combination of disorders imposes a *handicap*.

Defining Handicap

Handicapping conditions may be described or categorized in various ways. Sometimes categorization is determined by level of severity. While this is useful, it may be related either to the impact of the handicap on the individual or the difficulty with which habilitation and rehabilitation personnel perceive their roles in dealing with the individual. Sometimes handicapping conditions are classified by rate or level of incidence; this practice provides useful information for planning and budgeting put provides very little information about instructional needs. Also, handicaps can be categorized by particular conditions (i.e., deafness, blindness); this is helpful for purposes of grouping and for identifying common needs. Hicks (1982) suggests that the problem of classifying handicaps is a pervasive one.

> A major fallacy in our assumptions with regard to the educational management of handicapped children has been the tendency to view them as a single group with great similarities in terms of educational need. The fact is that such great diversity is present in handicapped students, that none of the ways in which we attempt to classify them is sufficient for making generalizations with regard to educational program needs. Recent attempts to develop generic models, usually based on some schema of developmental sequencing, are not highly effective for many handicapped children's program needs. (p. 12)

Hicks further suggests that "generalizations regarding the handicapped population as a whole, or any subgroup within it, must always be suspect unless qualified by both clinical and functional data" (p. 13).

The purpose of this article is not to devise a new classification system for handicaps, but rather to suggest methods of establishing a supplemental, school-based program for addressing the unmet needs of the multihandicapped hearing-impaired population. First, it is useful to describe a theoretical foundation for approaching the problem; this can be accomplished through a brief discussion of the term *disorder* in relation to a student population.

Determining the Impact of a Disorder

Generally a disorder is considered handicapping to the extent that it imposes restrictions on an individual's sensory, cognitive, and/or motor functional capabilities. For educational purposes it is helpful to view a disorder also in terms of the extent to which it affects individuals' understanding of themselves.

Often a disorder does not directly affect an individual's sensory, cognitive, and motor functions; however, a negative emotional reaction can occur unless educational services provide the person with information on the disorder and its relationship to his or her life. Only through observing and testing various performance areas can service providers determine a disorder's impact on an individual and thereby begin planning for delivery of educational services. Prevention of negative effects in individuals who have one or more disorders should be a priority in the educational planning process.

Multiplying the Handicaps

The total number of disorders that affect a school-age population is staggering. The Center for Assessment and Demographic Studies within the Gallaudet Research Institute main-

tains a comprehensive database on approximately 80% of the school-age hearing-impaired population in the United States. (This is the most complete database in the world for a subgroup of the general handicapped population.) The center has determined that 24,000 (40%) of the severely to profoundly hearing-impaired school-age children in this country have one or more additional disorders. Hicks and Hicks (1981) point to the increase in disorders among deaf student populations.

> In recent years, the situation has changed dramatically in schools and programs for the deaf. The number of children from the 1964-65 Rubella epidemic having at least one secondary handicap (in addition to deafness) ranges as high as 40 percent. This change in demographic characteristics of the student body, along with some recent federal and state legislation, means this substantial number of students can no longer be ignored. Future populations of deaf students—after the Rubella group has completed post-secondary education—also will have a high incidence of multiple handicaps. This is because the disease or condition that caused deafness frequently causes other problems. In addition, a higher incidence of drug and alcohol abuse, and venereal disease exists among expectant mothers. All of these situations contribute to a higher probability of single or multiply handicapping conditions. (p. 424)

Determining the Impact of Multiple Handicaps

Because the percentage of multi-handicapped students is so great, our educational systems cannot afford to disregard the influence of individual and combined disorders. Flexibility and comprehensiveness of programming must be provided to address the myriad needs of this group.

The traditional model of special services to students with disorders has included an evaluation of functioning levels along several dimensions and the provision of special services and/or training to remediate or substitute for those skill areas in which deficiencies are identified (Gollary & Bennett, 1976). Although this approach is basically sound, in many cases it is not totally responsive to a full range of educational service needs for the adolescent and young adult deaf. Typically, personnel in schools for the deaf have training and experience dealing primarily with deafness; they have a limited background with respect to other disorders. In particular, school personnel find it difficult to understand and plan programs for problems that result from the interaction of two or more disorders.

MSSD's Approach

Recognizing (a) the large number of disorders associated with deafness in a school-age hearing-impaired population, (b) the severe effects of these disorders in combination, and (c) the inadequacy of many support-service systems to deal effectively with the magnitude of educational planning, the Model Secondary School for the Deaf has taken steps to expand its support programs.

Position Designation

In 1979 MSSD added to its faculty a specialist who had background and training in the sensory disorders of hearing and vision, as well as some knowledge of other associated problems that may exist in combination with hearing impairment. The purpose of establishing this position was to provide complementary expertise to the already existing educational support system within the school. In particular, this educational disorder specialist assisted with planning and programming for those students who possess one or more disorders in addition to deafness. Such students experience problems that, in sum, are greater than and different from the impacts of such disorders in isolation. The new specialist provided background research, assisted with diagnosis, interpreted information from clinical and medical specialists, and functioned as an advocate for and facilitator of needed services for these unique individuals among the student population. Such services do not replace or displace any responsibilities of existing support personnel but, rather, provide an additional dimension to the school's capability for responding to the highly specialized and differentiated needs of individual students.

Program Components

The work of the educational disorders specialist has resulted in an extension of the special service concept to include a number of enriched services. These enrichment activities are outlined in the following list.

1. Curriculum Segments
   a. Specific materials and plans for helping students (both individually and in groups) to understand their disorders, health care procedures, and compensatory strategies they may utilize.
   b. Material for training students in substitute and remedial skills.
   c. Curricula on various disorders for faculty and staff.
   d. Materials for training teachers about compensatory skills that make basic school curriculum more accessible to students. (These strategies are particularly useful for students with visual or orthopedic disorders, those on medication schedules, and those who need other special considerations within the classroom environment.)
2. Information and Support for Parents
   a. Assistance for parents in un-

"The students are helped to understand their disorders so that they can become their own advocates within the school setting."

derstanding the implications of their child's disorders and in communicating this understanding to their child.

b. Assistance for parents in forming networks with other parents whose children have similar disabilities for purposes of exchanging information and receiving support from each other.

c. Assistance for parents who feel isolated because of their child's unique disorder, helping them become involved with the school's overall parent program as well as utilizing the other support systems within the school.

3. General Support to the Faculty and Staff of the School
   a. Workshops for school personnel on the nature and implications of specific disorders or combinations of disorders.
   b. Personal consultation with school personnel, either with information or with regard to individual students.
   c. Participation on review and staffing teams for students who exhibit major disorders in addition to deafness.
   d. Written information of a basic, summary nature about disorders identified within the school's population.
   e. Collaboration with other school personnel on special events and schoolwide training programs to provide specialized information about educational disorders.
4. Outreach
   a. Attendance at and participation in special conferences of local, regional, and national levels related to the goals of the program.
   b. Preparation of professional articles and other materials for submission to publications that receive wide distribution.
   c. Maintenance of active status in professional organizations and utilization of these organizations as a base for increasing advocacy and understanding about educational disorders.

Program Goals

A major goal of the program is to maintain frequent contact and good rapport with the students served. The students are helped to understand their disorders so that they can become their own advocates within the school setting. By becoming self-advocates they are able to (a) interact with peers more easily and to assist their classroom teachers in making any necessary modifications in the educational environment to accommodate their needs, (b) work with their career counselors in making intelligent choices, (c) deal effectively with the health service staff in carrying out any treatment programs authorized by physicians, (d) utilize any aids and devices that may be required, and (e) improve their psychosocial strength and well-being. The students are provided with all possible information and support in the anticipation that new knowledge will be positively integrated into learning and lifestyles. This provides a measure of self-assurance and control which, when supported appropriately, will lead to self-actualization.

Program Impact

The success of programming based on the previously stated premise cannot be measured except over time. However, observation and measurement of immediate behavioral changes suggest that students are responding in a positive way. Students who knew they had a disorder, but had no information about it, often refused to participate in group sessions, denied they had a disorder, and interacted little with peers. Since joining the educational sessions, they have been able to discuss their disorder with family, friends, and faculty members. Students who participated in the educational sessions immediately after their diagnosis have come to understand themselves better and have become their own advocates. They are more involved in school activities and they display a positive self-concept. Parents of multihandicapped students have become more involved in the educational process as a consequence of being introduced to other parents of multihandicapped students and learning about current research and information. The specialist also is available for private conferences and for participating in the Individualized Education Planning (IEP) process mandated by federal law.

Faculty and staff are finding it much easier to provide meaningful programming and to interact with students as they gain knowledge of disorders. Requests for information on disorders from outside agencies and schools indicate the need for duplication of this service at other sites.

Outreach

Obviously, not all schools and programs for the hearing impaired have sufficient resources to implement every element of the program described herein, particularly that of devoting a full-time specialist to its coordination. On the other hand, MSSD freely shares information and experience gained from its programs. To this extent, at least, other schools may find it helpful to implement certain techniques and strategies that have been described, regardless of whether or not major additions in human and other resources are available to provide full support for such programming. Information is available to all

interested parties. One particular set of publications, entitled *Add-a-Fact,* has been distributed to many schools and programs and is available for further distribution. This material is designed to provide summary information about a number of educational disorders, their impact, and instructional implications. Requests for this and other materials are invited as are comments regarding the program and its perceived usefulness.

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Participation: Management's Key to Organizational Change

Mary Hockersmith
Peter B. Hobbs
Nancy B. Fones

Administrative Issues in Decision Making

In recent years the administrative team has become a standard feature of most organizational charts. Often, however, the team appearing on the chart fails to become a dynamic, integrated group that actually leads the institution on a daily basis. Also, the team tends to be dominated by the leader; decision making and information sharing are limited to the top layers of administration, regardless of who might be affected by or might be able to contribute to the decision (Gordon, 1977). In a large residential school for the deaf where diverse and often competing constituencies (i.e., parents; teachers; and federal, state, and local policymakers) sometimes clash, such hierarchical behavior might serve to aggravate rather than ameliorate conflicts and competition.

An effective administrative team requires much more than formal recognition on the organizational chart. Development of school philosophy and mission, personnel selection and evaluation, and careful attention to building and maintaining trust and open communication are essential activities of an effective administrative team. In moving the school forward, the successful team will balance the content of its decisions against the processes of arriving at those decisions. The team as a whole recognizes and responds actively to the subtleties of the evolving human institution it seeks to lead.

The Literature on Decision Making

A philosophical commitment to team administration connotes participatory management in establishing the school's purpose and strategies. That commitment is predicated on shared assumptions about people's abilities, whether those people are deaf or hearing. High expectations are clearly set and everyone is expected to succeed. Team management also reflects specific assumptions about the nature of work and the role of the school in the wider social context. It is assumed that people work primarily for recognition from their peers and for the opportunity to make a contribution to their field. Work itself motivates people far more than a leader; therefore, rewards for excellence should include increased responsibility, more recognition, and continually challenging work (Ouchi, 1981).

If team members fail to reach consensus on these broad assumptions, if they harbor doubts about the capabilities of certain school constituencies, or if they are so locked into hierarchical thinking and behaviors that open discussion of these assumptions is impossible, then the sharing of input and decision making becomes severely limited. The philosophical basis for the administrative team is democratic and holistic. Members come to view their particular team as only one of a series of teams within the school, each with a particular area of expertise and responsibility. For example, supervisors and teachers serving as department contacts or representatives together form teams that represent the school at functions and provide input to the Principal's Office Team (POT). The POT comes to function as the forum in which the perspectives of the various constituent teams are synthesized into policy and procedure recommendations consistent with the underlying guiding principles and missions of the school.

Participative Management and Its Parameters

Once the commitment is made to team management and central issues of philosophy and mission are resolved, choice of team members becomes the crucial issue to ensure the emergence of representative approaches to tasks and problems of an ever-changing organization. A properly functioning team includes people of diverse backgrounds, characteristics, viewpoints, and styles. Strengths and weaknesses are aired, and balance in action is sought through the regular functioning of the team. Members must be able to share their opinions and feelings openly, and they must be free to represent their individual constituencies in an atmosphere of mutual respect. The team leader sets the tone by clarifying expectations and modeling a give-and-take discussion of issues and concerns. Disagreements are acceptable, even encouraged, with the understanding that confidentiality will be maintained and equitable decisions reached. Meetings are held for the express purpose of making specific decisions and sharing information.

Within this framework, personnel evaluation becomes a cooperative, intensely personal activity focusing on professional growth and self-improvement rather than on efforts to mold or correct individual characteristics. The responsibility for team success is shared among individual members and the leader. Each must invest time and energy in the other's successes in order to ensure the success of the team and the organization as a whole.

The caring atmosphere created by a dynamic administrative team spreads throughout the organization and responds to that organization's evolving needs. Delegation begins to happen naturally. The team leader is aware of organizational strengths and weaknesses and works to maintain a free flow of information up, down, and across the organizational strata of the school community. Regular sharing of information by all members of the team virtually eliminates

unpleasant surprises and brings great strength to crisis situations. Faculty and staff morale is strengthened because everyone takes part in growth and change.

Details of MSSD's Administrative Structures and Functions

The Model Secondary School for the Deaf is organized around this team concept within academic departments and the residence programs. Teams work on such projects as curriculum revision, modification, and development. Instructors who teach similar courses frequently form teams to share materials and techniques. Departments seek and share input on teaching assignments, student groupings, and student scheduling. Additionally, departments form teams to develop school goals. Department goals are established and achieved outside the personnel evaluation system: they provide a base for schoolwide goal setting. These procedures all create *bottom-up* flow in the decision-making process.

Many teams also function across departments or programs to work on such special projects as career education, improved use of computer technology, cognitive skills development, and curriculum analysis. In addition, interdepartmental team teaching is encouraged.

A number of teams provide services and information to support the instructional program. The Educational Planning Office is an example of teams within a team. This group of nine academic advisors is divided into three subteams, each serving students from specific geographical areas. These nine educational planners provide the backbone of the school's IEP (Individualized Education Plan) and academic advising program for students, teachers, parents, and other service providers. Diagnostic/prescriptive teachers also form a team that provides support and information to the entire program.

Supervision follows the same team pattern. Five program supervisors for instruction meet regularly to share concerns and problem-solving strategies. Recommendations from this group are then brought to the Principal's Office Team, which includes the Instructional and Learning Resources Center supervisors, the assistant principal for Curriculum, the assistant principal for Program Management, and the principal.

The principal meets weekly with the Administrative Management Team (AMT) composed of the director of Student Life, two assistants to the dean, and the dean. The dean's AMT initiates broad-based decisions and long-term activities, whereas the principal's team is concerned with issues of daily instruction. The POT makes recommendations to the AMT, however. (See Figure 1.)

This model allows communication to flow in both directions with ease. Administrators are kept up-to-date on programs, problems, and successes, making it easier for them to recognize problems and accomplishments quickly. However, one significant outgrowth of teaming is the resolution of problems by individuals or teams before top-level administration becomes involved. Faculty and staff

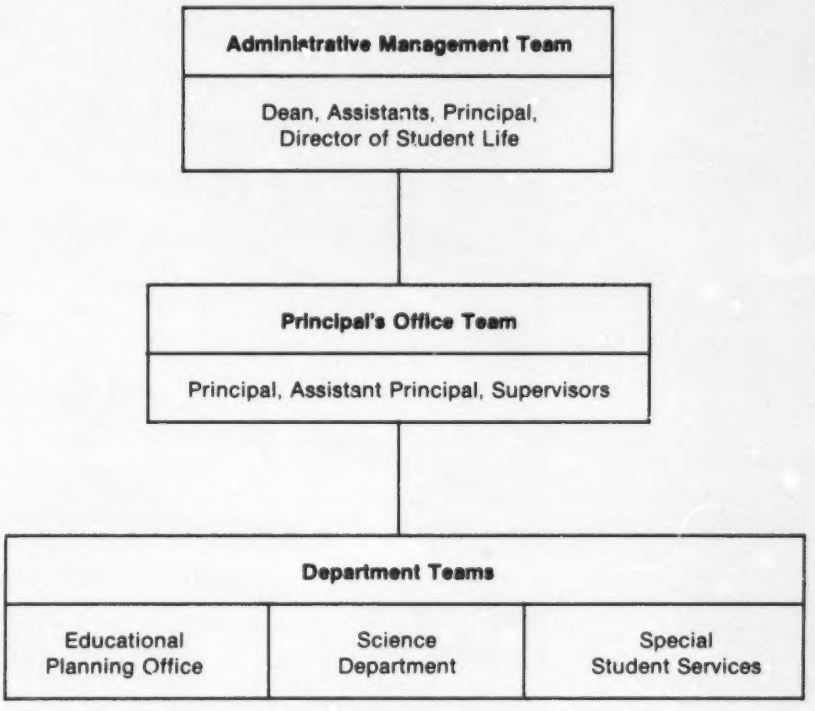

Figure 1
MSSD Teaming Structure

members are encouraged to solve problems themselves within their own departmental or interdepartmental team frameworks. Administrators actively support and emphasize the freedom of individuals to resolve the problems that affect them or their immediate teams. Glasser's systematic problem-solving approach (1969) is used to resolve conflicts. Alternative resolutions are considered, a plan to restore harmony or increase productivity is developed and agreed on, and no excuses are accepted.

Benefits of the System

Certainly, the team model is not without its frustrations. When workers assume responsibility for a piece of the action, the number of creative ideas can be overwhelming. Setting priorities through team processes is time consuming and occasionally means that some excellent ideas must wait their turn. Maintaining the trust and open communication so essential to team functioning requires honestly admitting mistakes and reaffirming commitment to situational leadership. In other words, changing administrative style based on situational needs and demands rather than on preconceptions or theories regarding "ideal" leadership characteristics such as autocratic vs. democratic behavior (Landers & Myers, 1977; Koontz & O'Donnell, 1976).

The dynamic team approach encourages creativity from administration, staff, and faculty members alike. The leader leads people as they want to be led, rather than as the leader was led, or would like to lead (Hunsaker & Alessandra, 1980). Over the past two years, decreases in teacher absenteeism and increases in self-initiated summer curriculum projects for minimum compensation are correlated with the initiation of this teaming approach to participation and self-governance.

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Instructional Supervision and Evaluation

The Best of Both Worlds

Lillian M. Tompkins

The surge in public demand for accountability has contributed to a profusion of materials and dialogue devoted to the topic of teacher evaluation in the public schools. However, a computer search of the Educational Resources Information Center (ERIC) and the Exceptional Child Education Resources (ECER) data bases produced no recent references to research in teacher evaluation or supervision specifically in schools or programs for the hearing impaired.

In public school systems, and possibly in schools/programs for the hearing impaired, more often than not the supervisor (e.g., the principal) completes an evaluation of a teacher after only one or two brief classroom visits. In many cases, the evaluation is conducted in accordance with a set of expectations, possibly arbitrarily designated, that have been dictated by the state or county for the primary purpose of determining reappointment or dismissal. Any discussion of the supervisor's role within this limited context reflects only those job functions that produce professional judgments that will place the teacher on an evaluative continuum (from unsatisfactory to outstanding), or will determine reappointment/non-reappointment.

In the broader practice of *instructional supervision,* however, the supervisor views teacher performance in the light of the processes involved in the day-to-day delivery of educational services. The emphasis of instructional supervision is (a) on the supervisor's assistance in the identification and discussion of the teacher's demonstrated instructional strengths and needs, and (b) on the supervisor's ability to meet these needs while simultaneously reinforcing and building upon the strengths.

The author wishes to thank fellow program supervisors for Instruction Carol Beckman, Monet L. Daniels, Rae Johnson, and Vivian Rice, and also Principal Mary Hockersmith, for their collaboration and constructive criticism in the compilation of this article. Samples of the observation and evaluation forms can be obtained from the author.

Instructional Supervision at MSSD

Given the dissimilar perspectives, practices, and purposes between teacher evaluation and instructional supervision, the question becomes Can teacher evaluation and instructional supervision be effectively reconciled in the same job? At the Model Secondary School for the Deaf, (MSSD), the response has been affirmative, and the personnel who perform this tandem function are the program supervisors for instruction. (The instructional program is composed of the academic aspects of MSSD's 24-hour curriculum. Other programs in the school are the residence program, the clinical support program, and the learning resources program; each has its own program supervisor and unique job description.)

Program Supervisor for Instruction: A Job Description

The overall charge of the program supervisor for instruction is to assist teachers in delivering high quality instruction in support of school goals and expectations. Within the parameters of this charge, the program supervisor for instruction assumes the dual role of evaluator/supervisor with four complementary areas of responsibility.

1. *Instructional Leadership.* The program supervisor observes the teacher and conducts conferences to share positive and constructive feedback. Learning theories, instructional strategies, and resources are discussed. The program supervisor is available to model or coach in specific approaches, methods, and materials.
2. *Evaluation.* The program supervisor observes and documents teacher performance according to the guidelines of the MSSD Faculty Evaluation System and the Gallaudet College Pre-College Programs Manual Communication Evaluation System. The program supervisor makes recommendations for reappointment/non-reappointment based on professional diagnosis and judgment.
3. *Communication.* The program supervisor shares job-related information and feedback among the school administrative personnel, the departments, interest groups, and individuals; and maintains the flow of accurate information among these divergent groups.
4. *Advocacy.* The program supervisor supports departmental goals and procedures; facilitates inter/intradepartmental interaction; and helps to resolve problems at the lowest appropriate level.

At present, the 14 instructional departments at MSSD are divided among 5 program supervisors, each with 3 or 4 departments and 18 to 24 teachers. The program supervisors act as experts in the instructional processes, leaving content expertise in the hands of the teachers.

Although the program supervisors do not claim content expertise for each of their several academic departments, they are involved in the development, modification, and implementation of the content-area curricula. This happens in the review and approval of new courses and special curriculum projects, as well as in the process of observing, so that the match between "paper" and "practiced" curriculum is assured.

The five program supervisors for

"The ultimate goal is that the program supervisor helps the teacher raise self-awareness of performance."

instruction at MSSD work together closely. They meet weekly as a unit and again as part of the principal's office team to address instructional issues. This close interaction produces a consistency in the interpretation and response to policy and procedure that is crucial to the effective and equitable operation of the schoolwide academic program.

The Evaluation Cycle

Participation in the evaluation system at MSSD is mandatory for all full-time faculty and instructional staff. The evaluation cycle covers one academic year and includes a pre-evaluation conference (for new teachers), the required number of formal observations (announced and unannounced, varying in number from two to four per cycle based on the year of faculty status), and accompanying instructional summary or evaluative conferences.

Teacher Observations. Each formal observation covers two consecutive class meetings of 45 minutes each. The number of formal observations required for teachers is determined by the year of full-time faculty status. First-year faculty receive at least four observations per cycle, three before the interim evaluation conference; second- and third-year faculty receive at least three observations, two before the interim conference; and fourth-year and beyond (including tenured) faculty receive at least two observations, one before the interim conference. Interim and final evaluation dates are also determined by a schedule governed by year of faculty status.

In gathering observable data, the program supervisor's primary guide is the observation form, a diagnostic model reflecting an eclectic approach to the entire observation/evaluation process. The observation form was drawn from more than one model of instructional supervision, with item choices based largely on the research and published findings of Madeline Hunter (1979, 1980). The format itself was derived from a system in use by the Beaverton, Oregon, schools in the 1970s. The form is periodically reviewed and revised as the MSSD population's needs change.

To assess teacher effectiveness in the areas of communication (which is especially crucial for hearing-impaired students) and the application of learning theories, the form focuses on four categories of instructional performance: Communicating, Prescribing, Carrying Out Learning Activities, and Evaluating Student Performance. Each of these categories contains from three to six specific and observable behavior indicator items.

At each classroom visit, the program supervisor documents observed behaviors by writing comments under the appropriate categories on the observation form. Comments are often direct quotes or are a summary of the dialogue between the teacher and the student(s). Conversely, comments might reflect the absence of desirable behaviors or strategies. The observed behaviors, as recorded on the observation form, become the basis for discussion between the program supervisor and the teacher in the conference that follows each two-day observation.

Instructional Conferences. Recognizing that developmental theories apply to teachers as well as to students, the program supervisor plans the post-observation conference accordingly, being responsive to such variations in teacher characteristics as temperament, motivation, energy, and planning ability. Glickman (1981-1982) lists nine supervisory behaviors that can be applied in conferencing and matched to the level of development of the particular teacher.

1. Listening—The supervisor shows attentiveness while the teacher talks.
2. Clarifying—The supervisor asks questions to focus on a specific classroom problem.
3. Encouraging—The supervisor asks the teacher to extend thinking about an issue at hand.
4. Presenting—The supervisor states his or her own perception and ideas for future improvement.
5. Problem Solving—The supervisor probes for alternatives to improve the classroom by offering solutions as well as listening to those of the teacher.
6. Negotiating—The supervisor presses for a solution acceptable to both parties.
7. Demonstrating—The supervisor models what needs to be done.
8. Directing—The supervisor coaches the teacher in what needs to be done.
9. Reinforcing—The supervisor provides conditions and consequences for teacher improvement and growth. (pp. 8-9)

The program supervisor's approach in a conference can be supportive, collaborative, or directive, according to the individual characteristics of the teacher. The ultimate goal is that the program supervisor helps the teacher raise self-awareness of performance by reflecting on what learning strategies and skills he or she is using (successfully or unsuccessfully). In this way, the observation process becomes an opportunity for the teacher to realize growth, as well as the basis on which the program supervisor later makes evaluation decisions.

In addition to selectively applying the supervisory behaviors suggested by Glickman, the MSSD program supervisors can borrow from Madeline Hunter's techniques for structuring teacher conferences. Hunter (1980) proposes five types of instructional conferences.

Type A Instructional Conference—The supervisor identifies, labels, and explains observed effective instructional behaviors; and cites research supporting reasons for effectiveness. The teacher gains an in-

"The MSSD evaluation/supervision model is eclectic in nature, evolving over the years to suit the changing needs of the school."

creased awareness of what he or she has done and why it worked, and receives the encouragement to continue to do the same.

Type B Instructional Conference—The supervisor notes effective behavior, and both the supervisor and the teacher collaborate to generate a repertoire of additional effective behaviors. The teacher gains a broadened scope of alternatives to use in varying instructional situations.

Type C Instructional Conference—The supervisor encourages the teacher to identify ineffective or unsatisfactory components of the teaching episodes observed in order to collaborate with the supervisor on strategies for reducing or eliminating unsatisfactory outcomes. The teacher gains the opportunity to suggest solutions as well as to receive constructive feedback from the supervisor.

Type D Instructional Conference—The supervisor identifies/labels less effective aspects of observed teaching episodes that were not apparent to the teacher, and helps in developing alternative strategies that have potential for effectiveness. The teacher gains insight into an awareness of weaknesses and participates in generating alternative responses to specific situations.

Type E Instructional Conference—The supervisor notes and encourages excellent performance by inviting the teacher to share expertise with his or her peers. The teachers gains the opportunity to select steps to expand his or her own professional growth. (pp. 409-412)

The purposes of the five types of instructional conferences are not mutually exclusive. More than one purpose can be served in any instructional conference if the purposes are related and not contradictory. The supervisor's skill in analyzing and communicating diagnostic judgments contributes to the positive outcome of each type of conference; none are inherently negative experiences.

Evaluative Conferences. Summative interim and final conferences occur during the evaluation cycle dated according to the MSSD Faculty Evaluation System (FES) timelines. The teacher's performance to date, substantiated by observations and instructional conference summaries, is recorded on the FES form. Recommendations to reappoint/non-reappoint are made at the interim conference for first- and second-year faculty and at the final conference for all others. If goal setting was deemed necessary in the instructional conferences, goals are recorded on the FES form along with strategies the teacher has employed or will employ for improvement. The program supervisor also makes a recorded commitment to the teacher by listing specific responsibilities he or she will assume to facilitate the teacher's achievement of each goal.

Conclusion

The program supervisors for Instruction at MSSD view their responsibilities as encompassing much broader functions than merely that of evaluation. The creation and practice of a job description that incorporates availability, positive interaction, educational leadership, and problem solving unifies the two traditionally divergent definitions of evaluation and instructional supervision.

The MSSD evaluation/supervision model is eclectic in nature, evolving over the years to suit the changing needs of the school. The observation form and FES form are parts of the "living" system.

The program supervisors for Instruction at the Model Secondary School for the Deaf invite queries from educators in regard to the use and function of this system.

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Curriculum Analysis: Change in the Classroom

Jacqueline Maeder
Nancy Fones

In the last few years the Model Secondary School for the Deaf (MSSD) faculty and administrators have expressed concern about what students are and are not taught at school. They believe that the MSSD curriculum placed too great an emphasis on the recall or retention of factual material rather than on problem solving, inquiry, or higher level cognitive skills. They concluded that the curriculum had to be evaluated and possibly revised to focus more appropriately on thinking skills. This concern for the improvement of deaf education is not unique to MSSD; it is widely evident and substantiated in the research (DeCaro & Blake, 1981; Smith, 1980; Stone, 1981; Sunal & Burch, 1982).

Indeed, the issue of what is taught in schools is not even unique to deaf education, but has been a source of concern in American education generally. John Goodlad, Dean of the Graduate School of Education, University of California, Los Angeles, reported results from an in-depth study of 1,016 American classrooms; 1,350 teachers; 8,624 parents; and 17,163 students. Goodlad (1983) concluded from an intensive "study of schooling" that "the cards are stacked against innovation and change" in our educational system (p. 465). Goodlad found a number of problems with American schools, including limited pedagogical alternatives, few student-initiated projects or activities, and a sameness of form in the substance and design of curriculum.

One of the most striking discoveries was the consistency of activities, practices, and evaluations requiring only low-level cognitive (factual) responses. Students were not being asked to reason, to derive concepts from related events, to test hypotheses derived from examining past situations under new circumstances, to draw conclusions from an array of data, or to explore different topics within the curriculum (p. 468). Rather, they were asked merely to demonstrate knowledge by recalling information. Goodlad suggested that "curricula seem to be geared to the lowest common denominators" (p. 465).

At MSSD, however, a schoolwide Curriculum Analysis Project is effecting change in the curricula by examining what is and is not taught. MSSD faculty, administrators, and instructional designers currently are working together on a three-year institutional project that emphasizes the teaching of higher-order cognitive skills to secondary school learners. The project focuses on thinking skills, so that students will learn to survive as consumers, study as life-long learners, and function as responsible adults and the primary decision makers in their own lives.

The Curriculum Analysis Project was begun in the summer of 1981 in response to general faculty and administrative concern over the depth of cognitive skills then included in the curriculum. A steering committee of supervising teachers, classroom teachers, and instructional designers met to determine the best strategy for improving the MSSD curriculum. The first year of the project was spent in specifying and analyzing the problem and in designing appropriate solutions.

Defining the Problem

As outlined by the committee, the problem encompassed two areas: cognitive skills, i.e., the need to enhance and broaden the cognitive growth and development of the students; and incidental and conceptual learning, i.e., the need to analyze the incidental learning that is not occurring and the instructional changes needed to ensure that students learn essential skills. For this project, incidental learning was defined as the learning of concepts, ideas, etc., that usually occurs serendipitously without specifically designed instruction.

Faculty members were concerned that the expected learning was not always taking place, and in some instances, direct instructional intervention would be required to overcome this deficiency. Because of the scope of this problem, only the cognitive skills area was addressed initially. Incidental learning was informally analyzed, but it will be investigated in more depth during the 1983-84 academic year by studying trends in the common and frequently made mistakes of students as evidenced on the hearing-impaired version of the Stanford Achievement Test. The remainder of this article presents MSSD's approach to cognitive enhancement.

Designing the Solution

Traditionally, two considerations affect selection of appropriate instructional goals.

Teacher Value System

The first consideration in the selection of instructional objectives is the "teacher's value system regarding the content to be treated and the learner behaviors" he or she hopes to develop (Popham & Baker, 1979, p. 29). Every teacher has ideas about what ought to be done in his or her discipline. These commitments to certain content or competencies in connection with subject areas form one framework for dealing with curricular decisions.

The Taxonomic Analysis

A second consideration for the selection of appropriate educational ob-

jectives is a taxonomic analysis. In the early 1950s, Benjamin Bloom and his colleagues attempted to categorize the types of objectives that were being evaluated in schools. They divided these objectives into three major categories or domains—cognitive domain, affective domain, and psychomotor domain. The cognitive domain is concerned with the intellectual responses of the learner; the affective domain is concerned with the attitudinal, emotional, and valuing responses; and the psychomotor domain is concerned with the physical responses of the learner (Popham & Baker, 1979, p. 30). There are levels within each domain that subdivide different kinds of learner behavior. Bloom (1956) divided the cognitive domain into the following six levels:

1. Knowledge—refers to the remembering of previously learned material. The student only has to recall the appropriate information.
2. Comprehension—refers to the ability to grasp the meaning of the material without necessarily relating it to other material or seeing its fullest implications. This represents the lowest form of understanding.
3. Application—is the ability to use abstractions in new and specific situations. The student must recall a previously learned abstraction (rule, method, concept, principle, idea, theory) and use that abstraction in a new situation.
4. Analysis—relates to the ability to break down materials or situations into component parts and to recognize the organizational structure of the components.
5. Synthesis—is the ability to put a number of things (concepts, generalizations, facts, experiences) together to form a new whole. The student makes something that is uniquely his or her own product.
6. Evaluation—requires the student to judge how good or bad something is on the basis of definite criteria.

The cognitive taxonomy has been widely used. It has enabled classification of thinking skills, brought out the great diversity of possible objectives, and helped educators expand the range of objectives that are usually covered (Furst, 1981, p. 450). It is useful in two ways: it focuses attention on the basic types of objectives being taught and evaluated (i.e., cognitive, affective, or psychomotor); and it provides a helpful standard by which teachers can evaluate the quality of their objectives (e.g., the level of objective such as knowledge, synthesis, evaluation) (Popham & Baker, 1970, p. 31).

The committee decided to combine both of these systems—the Teacher Value System and the Taxonomic Analysis—in analyzing the MSSD curriculum and to ask teachers within departments to revise their course objectives based on the analyses. The committee did not want administrators, supervising teachers, or its own members to make the final decision about which objectives each teacher should implement. This solution and the method of implementing the solution are unique in several ways. First, although Bloom's taxonomy has been used successfully by individual teachers for years, this effort was an application of Bloom on an *institutional level,* across all content areas and within all classes. Second, the method does not diffuse responsibility for finalizing objectives. Rather, responsibility rests with the individual classroom teacher. Each teacher analyzes the objectives for his or her classes and department using the Bloom taxonomy. Then, through discussion with department members, the department finalizes the course objectives—their levels and their sequence. In this way, each teacher has an active role in the most significant decision, i.e., what skills will be taught in the classroom.

Implementing the Solution

In order to implement this solution and to help teachers make rational decisions based on appropriate data, the committee decided to train teachers to recognize and name higher-order cognitive objectives and then match these objectives with instructional activities and assessments. The committee identified three major tasks—develop and provide training to assist teachers in building students' higher-level thinking skills, analyze current course objectives according to their cognitive levels and sequence, and revise selected areas of the curriculum to advance or expand the cognitive skills of students.

The committee designed and developed the training mechanism, a workshop with a supplemental supporting handbook. Together, the workshop and the handbook contain the following components:

1. A summary of the six major classes of cognitive objectives (knowledge, comprehension, application, analysis, synthesis, evaluation),
2. Examples of objectives for each of the six levels and practice in classifying objectives,
3. Instructions and suggestions for and practice in writing objectives at each of the six levels,
4. Guidelines and practice for writing instructional assessments and activities that match the objectives,
5. A list of additional references and resources.

Results

Three one-day training workshops have been offered to MSSD faculty during the 1981-82 and the 1982-83

academic years, with approximately 10 administrators and 25 teachers attending each workshop. Evaluation sheets turned in by participants indicate that the workshops were highly successful; teachers and administrators unanimously agreed that the workshop was relevant, beneficial, and worth recommending to others. The materials were considered well organized, comprehensive, and sufficiently challenging; and nearly all participants thought the instructors related the material to their needs, interests, and experiences. More than four-fifths of the participants have rated the workshop among the best they have ever attended. Based on those enthusiastic evaluations, the workshop and handbook are being revised and updated and will be offered again in 1983-84.

After training was completed, all objectives in courses currently taught at the school were classified. Now, as a third task, each department will examine course offerings and determine if the depth of cognitive skills is appropriate. If necessary, teachers will revise selected courses or course segments to expand the cognitive skills of students.

When the entire project is completed, MSSD faculty will have identified gaps in instruction and designed appropriate curriculum projects to fill those gaps. All teachers will be trained to analyze the cognitive levels of their instruction and will be encouraged to devote a greater proportion of instructional time to teaching higher-order cognitive skills. More importantly, faculty and administrators will have worked together to solve a schoolwide curricular problem, and they will continue to work together on the school's curriculum. Teachers will be collaborators within their own departments and across other departments. They will be part of a team responsible for the progress of students throughout the students' high school experience. Future curriculum development projects will stem directly from and be directly related to this total faculty discourse. Additionally, the model, workshop, and handbook will be available for dissemination to other interested schools for the deaf.

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Computerized Information Resources Employed by the Learning Resources Center

Ken Kurlychek

School libraries are referred to by a variety of terms in the belief that their purpose will be better described. The title *Learning Resources Center* (LRC) was given to MSSD's library to express its expanded concept as a total information center. The LRC serves as facilitator to the print and nonprint media necessary for the intellectual and emotional growth of the MSSD student population. In addition to its responsibility to the students, the LRC must provide for the informational needs of the faculty and staff. The growth and diversification of curricula at MSSD have necessitated the development of further services from the LRC. One such service is computerized information resources.

Background

During the mid-1960s, various publishers sought ways to convert bibliographic information to digitally represented data in an effort to keep pace with the explosion of scientific and technical information. By utilizing recent advances in data processing technology, it was possible to store the information on magnetic tapes and program a computer to typeset it for publication. A major by-product of this method was machine-readable information or data, which could be sold or leased to commercial vendors. Early endeavors were often sponsored by the U.S. government. One such sponsorship by the U.S. Department of Education led to what has become the staple of educational research—the Educational Resources Information Center (ERIC) data base. ERIC, a national information system currently supported and run by the National Institute of Education, provides access to research reports. programs, curriculum descriptions, and other pertinent information useful in developing educational programs.

In the early 1970s the Department of Research and Evaluation and the Department of Curriculum Development/Media of MSSD began to utilize the ERIC data base for the development of curriculum for the school, which then was new. Few people outside these departments, however, were aware of the electronic data resources available. In 1976, the LRC joined with the libraries of Kendall Demonstration Elementary School (KDES) and Gallaudet College in a concerted effort to promote what was referred to as Gallaudet Information Retrieval Services (GIRS). Accounts were established with the three major vendors of data bases—Bibliographic Retrieval Services (BRS), Lockheed Information Systems (since reorganized as Dialog Information Services), and Systems Development Corporation. Descriptive brochures were published and distributed on the Gallaudet campus. At that time, only Gallaudet College Library (GCL) used all three vendors; MSSD found that Lockheed's data bases alone were sufficient and KDES used BRS solely for its data-base searches.

Within MSSD, the initial users of the service were administrators. They asked questions such as: What are the career goals and aspirations of deaf adolescents? How does perceptual salience relate to deaf children and reading readiness? and What motivational and reinforcing techniques have proven effective in the classroom?

MSSD's budget for the service has fluctuated over the years. Based on expected use, it went from $3,000 in 1973-1974 down to $2,000 in 1977-1978, and is currently at the $4,500 level for all facets of the LRC's computerized information service. (See Table 1.)

Since the mid-1970s, data-base vendors have greatly expanded the number and variety of files offered while continually enhancing procedures for searching. At the same time, awareness of the value of retrieving information via computer has grown. Teachers have started requesting searches in a variety of subject areas and have received unsolicited search results as part of the answer to their reference questions. This latter practice, where clients are unaware that a computerized data search could assist in their project, is on the increase in the LRC and elsewhere as evidenced by several papers presented at the National Online Meeting in March 1981 (Cochrane, 1981; Friend & Bonta, 1981; Miko, 1981).

Accessing a computer for the purpose of information retrieval is commonly called online searching. The online search, however, is not the only application the computer has in the library setting. The Gallaudet College Library has developed data bases on deafness and campus-related

Table 1
Budget Allocations for Commercial Computer Resources

Academic Year	Allocation
1973–74	$3,000
1974–75	$5,000
1975–76	$4,000
1976–77	$2,500
1977–78	$3,000
1978–79	$2,000
1979–80	$2,000
1980–81	$3,000
1981–82	$3,000
1982–83*	$4,500

*Includes SpecialNet and BRS; all other years are for Dialog only.

"It is cost-effectiveness that justifies continuation of online services in this era of budget cuts."

special collections. The program that was designed to make these data bases accessible with a minimum of training was developed originally at the School of Information Studies, Syracuse University, and is referred to as SIRE/G.

Cataloging of print and nonprint materials through the Ohio College Library Center (since renamed Online Computer Library Center—OCLC) was initiated, and a computer-generated card catalog (COM catalog) that encompasses the current, future, and heavily used older acquisitions of GCL and the LRC, was also developed.

Today, in an ongoing effort to serve as a model program that offers its patrons state of the art library services, the LRC provides online access to the full complement of 245+ data bases provided by Dialog, BRS, GCL and the electronic mail/information systems provided by SpecialNet, the Handicapped Educational Exchange, and Education 80. Faculty, staff, and administrators are increasing their requests, and evaluation statistics show they are receiving relevant information. The scope of the topics searched is expanding, reflecting increased awareness on the part of the patrons as well as the growth of the information industry.

Commercially Available Data Bases

Currently, BRS, Dialog, and SDC are the major vendors of data bases to the business, scientific, medical, and education communities. The Source and CompuServe are examples of vendors providing a somewhat similar service aimed at the home computer user. These organizations run large main frame computers that can be accessed by many users simultaneously. They acquired data bases from a variety of producers and custom fit them to their individual system.

For the most part, high school libraries do not offer online information retrieval services to their institution's faculty and staff. The educator seeking information beyond the holdings of his or her library is usually referred either to a local district or state agency library or, in other cases, to college or university libraries that do provide search services.

While this system may be adequate for others, the demands of a national model and resource center require that the LRC provide universal access to the broadest range of current and relevant information. Online technology makes this access possible.

The advantages of online services over traditional ways of finding information have been proven in academic, business, law, medical and research libraries. As the nature and scope of the subject areas available online increase, school and public libraries will undoubtedly incorporate computerized information retrieval services into their existing programs.

While speed, comprehensiveness, currentness, flexibility, and convenience are highly desirable features, it is cost-effectiveness that justifies continuation of online services in this era of budget cuts. "For the preparation of a customized manual bibliography, the overhead required in staff time is many times greater than that required for an online search.... Online services can further reduce library expenditures by elimination of subscriptions to little-used, expensive abstract and index journals and other sources, if they are available online" (Hoover, 1980, p. 21). Now, with the recent arrival of the Academic American Encyclopedia on BRS, more common reference works can be accessed electronically rather than purchased outright.

Though not all reference questions lend themselves to computer searches, it is felt that online reference work should not be considered an extraordinary means to locate information. Table 2 shows data bases offered commercially that are most often considered when preparing a search strategy.

Gallaudet College Library Computerized Resources

The COM catalog contains all GCL and LRC acquisitions from 1976–1977 onward, with many prior holdings added retrospectively. The catalog is in microfiche format and is contained in three-ring binders. With microfiche readers on both levels of the LRC, the MSSD community gains easy access to the holdings of both institutions. Trips across campus merely to check the GCL holdings are, in most cases, eliminated. The COM catalog includes nonprint as well as print materials and is divided by author, title, subject, and shelf list.

The OCLC System

Virtually all MSSD materials are cataloged by GCL Technical Services through the OCLC system. OCLC, a nonprofit cooperative network of libraries across the country, allows for the sharing of cataloging information and enables computer-generated processing of books and other materials.

Another feature OCLC offers its participants is interlibrary loan communications. As use of nontraditional sources of information increases through online technology, interlibrary loan demands multiply. Through OCLC, requests can be posted and member institutions' holdings searched. The speed of locating materials through OCLC far exceeds previous methods.

Table 2
Frequently Used
Commercial Data Bases

Data Base Name	Producer	Subject Coverage
ABI/INFORM	Date Courier, Inc.	management and administration
American History and Life	ABC-Clio, Inc.	social studies
Bilingual Education Bibliographic Abstracts	National Clearinghouse for Bilingual Education	education
Biography Master Index	Gale Research Co.	multidisciplinary
Biosis Previews	Biosciences Information Service	science and medical
Book Review Index	Gale Research Co.	multidisciplinary
Books in Print	R.R. Bowker	multidisciplinary
Child Abuse and Neglect	National Center for Child Abuse and Neglect	audiovisual materials
Druginfo	Drug Information Service Center and the Hazelden Foundation	drug abuse
Excerpta Medica	Excerpta Medica	medical
Health Planning and Administration	U.S. National Library of Medicine	health care
Historical Abstracts	ABC-Clio, Inc.	social studies
International Software Directory	Imprint Software, Ltd.	computer software
Language and Language Behavior Abstracts	Sociological Abstracts, Inc.	language and communication
Life Science Collection	Cambridge Scientific Abstracts	science
Magazine Index	Information Access Corp.	multidisciplinary
Mathfile	American Mathematical Society	mathematics
Medline	U.S. National Library of Medicine	medical
Microcomputer Index	Microcomputer Information Services	multidisciplinary
NARIC	National Rehabilitation Information Center	rehabilitation
National Information Sources on the Handicapped	Clearinghouse on the Handicapped	physical disabilities
National Newspaper Index	Information Access Corp.	multidisciplinary
Newsearch	Information Access Corp.	multidisciplinary
NICSEM	National Information Center for Special Education Media	audiovisual materials
NICSEM/NIMIS	National Information Center for Special Education Media (1978 edition)	educational media
PsycINFO	American Psychological Association	psychology
Resources in Computer Education	Northwest Regional Educational Laboratory	computer education
Social Scisearch	Institute for Scientific Information	social sciences
Sociological Abstracts	Sociological Abstracts, Inc.	sociology
School Practices Information File	Education Service Group/BRS	education
U.S. Public School Directory	National Center for Education Statistics	education

"The information found in these data bases is extremely valuable to LRC clientele."

SIRE/G Data Bases

All SIRE/G data bases are accessed through the campus main-frame computer and can be searched from any terminal in MSSD that is either hardwired to it or equipped with a modem that transmits signals over telephone lines. The information found in these data bases is extremely valuable to LRC clientele and very often is sufficient to meet their needs. (See Table 3.) Of particular value is the videotape data base. This file, which is used daily, provides bibliographic and access information to the collection of video cassettes available to campus users through the Gallaudet Cable TV system. Searches can be generated according to producers, actors, or subjects. Other data bases on SIRE/G, such as those dealing with the Deaf Collection, Linguistics Lab holdings, and a bibliography on deaf-related nonprint materials, provide comprehensive coverage of subject areas.

While SIRE/G is easy to use and its data most relevant, MSSD teachers are reluctant to perform searches themselves, preferring instead LRC staff assistance. It is hoped that increased orientation to these resources will encourage self-reliance.

Electronic Mail

Telecommunications via computer is one of the most recent applications of computer technology. Networks revolving around special interest groups are sprouting up on main frame and microcomputer systems alike.

SpecialNet, a main frame oriented system, is sponsored by the National Association of State Directors of Special Education (NASDSE). As the name implies, SpecialNet is a network of users concerned with special education. Run on General Telephone and Electric's (GTE) Telenet systems, SpecialNet is available to organizations nationwide (see Campbell, 1982).

SpecialNet's existence is relatively new. MSSD has been a subscriber for over a year and believes it is worthwhile to continue. Currently serving 600+ organizations, SpecialNet offers an ideal way for professionals in special education to share information and interests; it also provides a format for introducing new items related to the field. It is simple to use, requiring minimal training. The primary avenue for information sharing is the *bulletin board.* All information on the boards, as well as in the mail, is dated to ensure timeliness. The boards currently available are listed in Table 4. Most noteworthy to educators of the deaf is the *Deafness* board, which is devoted to information concerning the hearing-impaired population. MSSD, along with the School of Education and Human Services at Gallaudet and the Educational Specialist Program for the Deaf at the National Technical Institute for the Deaf, is responsible for maintaining input on this board.

The electronic mail feature is quickly proving its value as an alternative to the U.S. Postal Service and regular telephone service. International Resource Development, Inc. (IRD), a market research and consulting firm, reported in a study entitled *Computer Based Electronic Mail* that organizations can save as much as $50 a day by using electronic mail to avoid *telephone tag.* (Telephone tag is described by IRD as the situation in which one professional repeatedly tries to reach another by phone, and the other makes unsuccessful attempts at return calls. Occasionally, this process continues for days.) Averaging salaries, phone rates, and other factors, IRD estimated the average successful telephone call at $12.82. Unlike the U.S. Postal Service, which has increased prices 125% over the last 9 years (Waters, 1982), electronic mail costs continue to drop. While MSSD's use of SpecialNet at this time is primarily for bulletin board information, it is expected that the mail component will improve communications with off-campus professionals in the near future.

The Handicapped Educational Exchange (HEX) and Education 80 are two examples of microcomputer based electronic mail systems. HEX, located in Silver Spring, Maryland, is similar in purpose to SpecialNet but is limited in the amount of information that can be stored and the number of users who can access it. Education 80's objective is to permit the free exchange of information and to allow dialogue on the uses of computers in education. Education 80 is located in Greenwich, Connecticut. Both are free except for telephone user charges.

Table 3
Information in the SIRE/G Data Bases

Data Base Name	Subject Coverage
CURLAB	Campus Curriculum Lab collection
DEAF	Gallaudet College Library's deafness collection
LING	Holdings of the Linguistics Lab
MAGS	Campus list of serials
MEDIAG	Nonprinted media related to deafness
NEWBKS	New acquisitions of the College Library and the MSSD LRC
SOURCE	Distributors of nonprinted media related to deafness
VIDEO	Videotapes available over the campus cable system

"Future plans include promoting the use of online information services to students."

Down the Road

Future plans include promoting the use of online information services to students. It is hoped that a program similar to one in Montgomery County, Maryland (Dowling, 1981), will be developed wherein students are offered access to online data bases as a supplement to research done with inhouse materials. The LRC believes that it should introduce today's high school students to modes of information retrieval that will be common in tomorrow's world.

Currently, the LRC utilizes an Apple II Plus microcomputer to keep circulation records and generate overdue notices for print and nonprint media. The next step will be to track inventory of the general collection.

By gradually acquiring additional hardware and software, the LRC plans to enhance its Apple to serve as a *smart* terminal. This would allow the inexperienced searcher to formulate search logic on the microcomputer first, then, with various entry protocols pre-programmed on the Apple, access the appropriate information source. This approach can reduce connect-time costs and provide for more easily managed training.

Other projects under consideration for the future are the creation of data bases on classroom-proven microcomputer software, bibliographies on frequently requested topics, and an inventory of audiovisual equipment.

As the information age proceeds, the LRC is doing its best to keep pace with all intellectual and technological advances. The ultimate goal is to ensure that all patrons of the Learning Resources Center will be able to participate in, and enjoy the benefits of, an information-rich society.

Table 4
Data on the SpecialNet Electronic Bulletin Boards

Data Base Name	Subject Coverage
Assistive device	New technology to aid the physically handicapped
CSPD	Compehensive System of Personnel Development—preservice and inservice training
Computer	Computer applications
Conference	Special education-related conferences
Congress	Addresses and phone numbers of the members of U.S. Congressional committees
Consultants	Consultants in various areas
Deafness	Information on the hearing-impaired population
Early Childhood	Services for handicapped children 0–8 years of age
Edutech	Educational technology
Employment	Employment opportunities in special education
Exchange	Information sharing
Federal	Pertinent activities in Washington, D.C.
Litigation	Court cases and hearing decisions
Multihandicapped	Administrative and institutional services for severely and multihandicapped children
Opinions	"Letters to the Editor"
Policy	P.L. 94-142 information
Practices	Promising practices from around the nation
RFP	Requests for proposals
Rural	Special concerns of rural special educators
SLATE	Assistance for policy makers using technology in education
Television	Accessing and utilizing cable TV
Vision	Information related to the visually impaired population

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International Resource Development, Inc. *Computer based electronic mail*. Norwalk, Conn.: Author, 1981.

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Waters, C. Talk is cheap. *Inc.*, 1982, *4*(8), 51-56.

NEW from ERIC

Documents listed below have been selected by Jean N. Nazzaro, an information specialist with the ERIC Clearinghouse on Handicapped and Gifted Children. The Clearinghouse is operated by the Council for Exceptional Children, 1920 Association Drive, Reston, Virginia 22091, and is funded by the National Institute of Education. ERIC documents may be ordered in either microfiche or paper copy from ERIC Document Reproduction Service (EDRS), P.O. Box 190, Arlington, Virginia 22210.

ED 214 357

A Cooperative Integration (Mainstreaming) Program between Millbrae Elementary School District and San Mateo County Office of Education's Classes for the Deaf and Severely Hard-of-Hearing Programs: Results of a Two-Year Study, 1979-1981.
Allen, Miriam; 1981, 19 p.
San Mateo Office of Education,
Redwood City, California

A demonstration program featured a mainstreamed setting for six hearing-impaired children (five hard of hearing and one deaf) in 2nd and 3rd grades. A full-time special education teacher used sign language and co-taught with the regular classroom teacher. Many of the problems encountered in the first year of the program were dealt with successfully in the second year, as the hearing-impaired students became more accepted and more a part of the classroom. Teacher satisfaction was generally high, as was administrator response. In addition to academic and social growth, the hearing-impaired children greatly increased their communication skills. The students in the class, as a whole, showed progress in learning to solve their own social and academic problems without adult intervention.

ED 214 337

An Identification of the Science Career-Development Needs of Deaf Students.
Stolte, Joanne B.; 1981, 67 p.
Available from Research for Better Schools, Inc.,
444 N. Third St., Philadelphia, PA 19123

A questionnaire developed through analysis of the literature on the science career-development needs of deaf students was completed by 20 individuals from the ranks of deaf scientists, science and industrial leaders, science educators of deaf students, career-development specialists working with deaf students, staff of rehabilitation programs and services for deaf persons, and representatives of educational programs training those who work with deaf students. When the needs statements from the survey were ranked, needs related to information about the world of work ranked as seven of the first eight needs statements. Additional needs identified by respondents fell in the categories of training programs for teachers of deaf students; basic skills instruction; information regarding the world of work; and sufficient support services, resources, and materials. The most highly endorsed need was for deaf role models currently employed in science-related occupations.

ED 214 325

Deaf Readers' Comprehension of Individual Sentences.
Sarachan-Deily, Ann Beth; 1980, 27 p.
Available from ERIC Document Reproduction Service
(see above)

To examine syntactic and semantic differences between the written language of deaf and hearing persons, 30 deaf students were asked to recall sentences. Ss' recall was compared to that of hearing control Ss matched for age. More than half (59.8%) of the total number of sentences recalled by deaf Ss violated rules of English grammar, syntax, or both; while only 9.7% of hearing Ss' errors did so. Deaf Ss also made more recall errors than control Ss. However, deaf Ss could use the semantic relations in English sentences as well as the hearing Ss did to aid in recall, suggesting that the deaf are able to take advantage of semantic information and coding strategies for processing a sentence whether or not these relations are realized in their syntactic rules.

ED 213 242

Working Papers in Experimental Speech-Language Pathology and Audiology. Volume X.
1981, 157 p.
Queens College Department of Communication Arts and Sciences, City University of New York, Flushing, New York

The document contains papers of seven research studies conducted by graduate students at the Speech and Hearing Center of the Department of Communication Arts and Sciences at Queens College of the City University of New York. Papers have the following titles and

authors: "Assessing Pragmatic Functioning in Language-Disordered Children" (K. Majlinger et al.); "The Roles of Comprehension and the Semantics of Verbs in Training an Adult to Produce a Grammatical Morpheme" (A. Ollendorf & S. Longtin); "Early Emergence of a Verbal Inflection—Semantic and Pragmatic Considerations" (G. Rand et al.); "The Effect of Age on the Prediction of Hearing Levels from Acoustic Reflex Thresholds in Persons with High-Frequency Hearing Losses" (T. Feder et al.); "A Case Study of a Down's Syndrome Child's Discourse Abilities" (S. Faine & S. Longtin); "Focusing on Mother-Child Interaction in Therapy with a Language-Impaired Child" (E. Kriehn & E. Geller); and "A Pragmatic Touch to Teaching an Emotionally Disturbed Child Prosody" (C. Siomkos & S. Wollner).

ED 213 235

Arts Accessibility for the Deaf.
Bergman, Eugene; 1981, 24 p.
Available from National Access Center, 1419 27th St., N.W., Washington, DC 20007

The booklet provides information and resources for cultural organizations and institutions interested in making the arts accessible to deaf citizens. Preliminary information includes a discussion of deafness in America and the deaf in the history of the arts and notes that the era of silent films was the golden age of cinema. Listed are 36 theaters of and for the deaf as well as 18 hearing theaters with accessibility for the deaf. Also considered are television shows with deaf characters, entertainment programs for the deaf, news programming, the deaf and educational television, closed captioning, and videodiscs. Brief sections discuss resources for deaf dance as well as music and the visual arts. Museums offering interpreted tours and/or special programs for the deaf are listed. The booklet's suggestions for improving arts accessibility include involving the staff in awareness training, developing a deaf audience, and designing programs that consider visual cueing, lighting, fire and emergency warning, acoustics, and hearing amplification. Sources of design information are noted. Finally, resources are given for locating deaf people in the community, locating deaf artists, and reaching deaf audiences.

ED 213 197

Taking a Family Perspective: A Principal's Guide for Working with Families of Handicapped Children.
Central Institute for the Deaf, St. Louis, Missouri; Institute for Educational Leadership, Washington, D.C.
1981, 129 p.
Available from Family Impact Seminar, 1001 Connecticut Ave., Suite 310, Washington, DC 20036 ($3.50 prepaid, $3.50 plus postage and handling if not prepaid, 10% discount for more than 10)

Written by and for principals, the guide provides a framework for developing school policies that encourage partnership with the parents of handicapped children. The first two sections focus on the principal's role in family impact analysis and the characteristics of families with handicapped children as they relate to the school. The next section gives principles of policy development (such as using a team approach and respecting confidentiality), and suggests a multiactivity project to identify policy needs through talking with parents and teachers, reviewing and analyzing existing written policies, and gathering information about the special education family population. Half of the guide consists of five checklists to use in developing school policy. These include a principal checklist (a list of general guidelines concerning the principal's role); school policy checklist (questions grouped in categories); teacher checklist (list of questions to ask teachers about their concerns and practices); family checklist (possible discussion questions for parents regarding their relationship with the school); and family data questionnaire (to obtain information on types of families in the special education program).

ED 213 176

Science for the Hearing Impaired: Teachers Guide. Introduction and Levels 3-7.
Sunal, Dennis W.; Sunal, Cynthia Szymanski; 1981, 134 p.
Available from Science for the Hearing Impaired, Department of Curriculum and Instruction, College of Human Resources and Education, West Virginia University, Morgantown, WV 26506 ($2.50, Introduction; $11.00, Levels 3-4; $16.00, Levels 5-6; $14.00, Level 7; quantity discounts available)

Intended for use with hearing-impaired students, ages 9 to 13 years, the curriculum guide is an adaption of an existing commercially available school science program with the addition of new materials. Adaptation included reorganization of some materials; paraphrasing to aid the student with textual material; isolation of key words and phrases; the use of language cards to build scientific vocabulary; and addition of activities for students at a wide range of reading, experience, and attention levels. Introductory information covers program characteristics

and goals, instructional methodology, program components and instruction on use, the program development process, a suggested teacher-training workshop, and adapted and unadapted versions of a lesson plan. The bulk of the document consists of the curriculum guide organized by levels, and within levels by units of study. Provided for each unit is a unit cluster outline; list of suggested materials; readings; and information on purpose, prerequisites, advance preparation, and teaching suggestions. The curriculum covers the following units: variation, space and motion, interaction and energy, population interactions (Level 3); environments, exploring matter, patterns, exploring energy (Level 4); adaptations, forces, motion, matter, and energy (Level 5); population needs, models, models of matter, energy, and ecosystems (Level 6); and biology (Level 7).

ED 215 547

Preparing the Hearing-Impaired Social Studies Teacher: Special Challenge to a Special Group.
Martin, David S.; 1981, 11 p.
Gallaudet College, Washington, D. C.

The paper focuses on the special adaptations made at Gallaudet College (Washington, D.C.) to train hearing-impaired students to teach social studies to hearing students at the elementary and secondary levels. Teaching adaptations are discussed for each of eight key course topics: social studies concepts and generalizations, discussion skills, use of multimedia, role play, simulation games, current events, geography skills, and multicultural education. Noted among the adaptations for practicum work is the use of a classroom sign language interpreter.

ED 215 546

Signed Statements and Delay of Gratification in Deaf Children.
Toner, Ignatius J.; Ritchie, Fiona K.; 1981, 13 p.
Available from ERIC Document Reproduction Service
(see p. 54)

Twenty-four deaf children (6 to 10 years old) were individually administered a task in which possession of accumulating candy rewards was made contingent upon the child stopping further accumulation. Ss, who under instruction periodically signed statements about the goodness of the reward, waited significantly longer before terminating the waiting period than did deaf children instructed to sign statements about the act of waiting, and they waited somewhat longer than did deaf children instructed to sign a neutral statement. As the pattern of delay was unlike that reported when nonhandicapped children verbalized similar statements, the results were interpreted in terms of the functional differences between signed and spoken language.

ED 215 541

Adult-Child Interactions and the Language of Hearing-Impaired Children in a Preschool Setting. Directed Student Research, Final Report.
Fox, Daphne S.; 1980, 235 p.
Teachers College, Columbia University, New York, New York

This study involving four teachers, two tutors, and ten preschool hearing-impaired children investigated both the linguistic relationship between adult and child utterances and the teaching strategies involved in the process of interacting. A literature review focuses on three major areas—language interaction between adults and normally hearing children, studies of communication between parents and young hearing-impaired children, and studies of relevant research regarding language learning in deaf children. The study involved videotaped sessions with the child in regular preschool activities and in a training session with the investigator, videotaped sessions of the child and teacher playing and discussing a story and the child and the speech/language tutor playing and discussing a story, and a session in the child's home in which the parent(s) was interviewed and audiorecorded. Among the conclusions reached from findings were that the hearing-impaired children were dependent upon the form of the adult input message for formulating their own messages to an extent not found with normally hearing children; that the task of responding to nonquestions with other imitations was difficult for the hearing-impaired children; and that discourse development appeared to be interdependent rather than dependent upon a particular adult reaction or strategy, with linguistic and nonlinguistic context influencing both the adult and the child in the dyadic exchange. Included in the appended materials are profiles of individual children, the six-sequence picture story, instructions to teachers and tutors, procedures for transcribing videorecorded data, discourse analysis of child utterances and adult reactions, and a sample parental permission form.

ED 215 518

Final Program Review of the Cued Speech Project at Kendall Demonstration Elementary School and the National Child Research Center, Washington, D.C.
Schafbuch, Linda; 1981, 113 p.
Available from Cued Speech Programs, Gallaudet College, Washington, DC 20002

The report describes the National Child Research Center (NCRC) Cued Speech Program in which various approaches were used to assist 16 preschool and primary-aged hearing-impaired children in a mainstreamed setting. Section I considers the program in terms of background, philosophy, goals, and program formats. Section II presents a summative review of the NCRC Cued Speech Program that offers data from parents, staff, and teachers. Findings are noted to support the program's success in developing children's communication skills, socialization, and involvement with a hearing environment. Appendixes contain a draft of procedures for coordinating the educational and tutoring program, program cost data, questions used in interviews, interview responses, sample questionnaires and tabulated responses, parent goals, and case history summaries.

ED 215 517

Developing Reading Appreciation in Young Hearing-Impaired Children.
Gelzer, Lynne; 1981, 20 p.
Pre-College Programs, Gallaudet College, Washington, D.C.

The paper explains the importance of reading stories to young hearing-impaired children and describes effective story-reading techniques for use by parents, teachers, and librarians. Considered in outline form are the following topics: the role of adults in motivating young hearing-impaired children to read, selection of stories for young children, principles of storytelling, and examples of activities to develop reading-appreciation skills. Concluding the document is a list of skills for developing reading appreciation in young children.

ED 215 516

Counting System for Adding and Subtracting Using the Basic Facts.
Mackall, Philip L.; 1981, 13 p.
Pre-College Programs, Gallaudet College, Washington, D.C.

A math teacher describes an approach to help special education students solve addition and subtraction problems through a system involving finger counting. The systems for subtraction and addition solve the problem faced by students unable to memorize facts and unable to use their fingers when numbers exceed five.

ED 215 515

Issues in the Evaluation of Hearing-Impaired Children and Adolescents.
Ulissi, Stephen Mark; 1981, 24 p.
Available from ERIC Document Reproduction Service
(see p. 54)

Intended for mental health professionals who evaluate hearing-impaired children and adolescents, the paper discusses issues of general concern. Areas touched upon include psychological and sociological effects from the hearing-impaired subculture, complicating medical and physical disorders, and modification of assessment devices to remove the effect of sensory deprivation. A section outlining specific issues touches upon the nature and etiology of hearing impairments, factors (such as age of onset and amount of speech and auditory training) affecting implications of hearing loss, specific difficulties with English, and the use of nonverbal tests of intelligence.

ED 215 509

Directory of Mental Health Programs and Resources for Hearing-Impaired Persons.
Trybus, Raymond J.; Edelstein, Terry A.; 1981, 31 p.
Available from Gallaudet Research Institute, 800 Florida Avenue, N.E., Washington, DC 20002 ($3.00 plus $0.50 postage)

The directory is the result of studies on services for hearing-impaired persons in state psychiatric hospitals and mental health programs. It lists approximately 100 programs and resources for hearing-impaired persons in 27 states and two programs in Canada. Arranged alphabetically by state, citations include information on director's name, services offered, program capacity, professional staff, and date the program was established. Programs (mental health services units specifically designed for hearing-impaired persons, which are typically housed in psychiatric hospitals, mental health clinics, or schools) are represented as well as resources (specific agencies or private practitioners not designed specifically for, but offering services to, the hearing impaired).

ED 215 490

A Survey on the Use of High-Risk Register and Birth Certificate for Infant Hearing Screening.
Carlberg, Karen A.; and others; 1981, 9 p.
Oklahoma State Department of Education, Oklahoma City, Oklahoma

To determine progress in identifying hearing loss in large populations of newborns, a questionnaire was sent to state agencies in 50 states plus the District of Columbia and Virgin Islands. The questionnaire addressed three major topics: use of a high risk register, use of birth certificate screening, and future consideration of birth certificate screening. Among the major results were the following: 13 states reported current use of a high-risk register; most states gave the responsibility of the register to the state health department; only one state (Utah) reported current use of the birth certificate to identify high-risk babies on a statewide basis; and states gave diverse responses on the question of confidentiality.

ED 216 496

Educating Hard of Hearing Children. Special Education in Transition 2.
Ross, Mark; Nober, Linda W.; editors; 1981, 128 p.
Alexander Graham Bell Association for the Deaf, Washington, D.C., and the Council for Exceptional Children, Reston, Virginia
Available from CEC Publications Sales, 1920 Association Drive, Reston, VA 22091 ($9.00, Publication No. 233)

Viewpoints of an audiologist, speech-language pathologist, special educator, classroom teacher, and parent are presented in this book on the implications of PL 94-142 (the Education for All Handicapped Children Act) for hard-of-hearing students. In the introduction, Ross considers the status of many hard-of-hearing students, noting the importance of early detection. A. Maxon reviews "Audiological Assessment and Management" and makes a case for the involvement of the public school audiologist. "Assessment and Management of the Preschool Child" by V. Jury discusses evaluation as well as types of nursery school placement. D. Brackett ("Assessment: Adaptations, Interpretations, and Implications") describes components of a comprehensive evaluation. Considered in "Psychosocial Considerations and Evaluation" (J. Davis) are personality characteristics and social development. D. Meltzer ("The Parents as Consumers") recounts his role in making educational decisions about his hard-of-hearing, junior-high-school-aged daughter. M. Teitelbaum discusses "Teachers as Consumers—What They Should Know about the Hearing-Impaired Child." The issue of individualized education programs (IEPs) is addressed by L. Nober in "Developing IEP's for Hard of Hearing Children." Ross summarizes the other presentations and comments upon such topics as auditory and visual dependence, psychosocial adjustment, and speechreading and auditory training.

ED 216 499

Competency Goals and Performance Indicators K-12: Hearing-Impaired Learners, Birth—Grade 12 (Supplement).
Instructional Services; 1980, 170 p.
North Carolina State Department of Public Instruction, Raleigh, North Carolina

The unique needs of the hearing-impaired student (K through grade 12) are examined in this book. It includes lists of goals and performance indicators in a variety of instructional areas. It is explained that the text is intended as a supplement to "Competency Goals and Performance Indicators K-12." Goals and performance indicators are listed for the following areas: parent guidance; early intervention and parent education; developmental skills for ages 0 to 2 and 3 to 6 (personal-social, perceptual-cognitive, gross motor, fine motor, self help); auditory development; language development; speech development; reading; writing; mathematics; and vocational education. Each section includes a list of references.

ED 216 470

Oral Composition in the Classroom (Handicapped Students).
Jones, Carol S.; 1981, 17 p.
Available from ERIC Document Reproduction Service
(see p. 54)

A teacher of hearing-impaired students describes an approach to oral composition in which a student is videotaped while telling a story in sign language. The other students then write a draft of the story. Results demonstrated the need to focus on coherence through the use of transitions. She suggests that benefits of the video-oral drafting technique include the recognition for the student of the differences between oral and written language and the opportunity for the teacher to isolate areas that could be improved through instruction. A second approach is described in which an audiotape was used to help a cerebral palsied quadriplegic student organize her compositions.

ED 217 606

Catalog: National Leadership Training Program—Area of the Deaf—Area of the Deaf-Blind—Projects, 1962-1980.
Kralick, John E., ed.; and others; 1981, 99 p.
National Center on Deafness Publication Series Number 4
Available from National Center on Deafness, California State University, 18111 Nordhoff Street, Northridge, CA 91330 (no price quoted)

The catalog contains listings of 304 papers authored by graduates of the National Leadership Training Programs in the areas of the deaf and deaf-blind over the years 1962-1980. Entries on the deaf are listed by year, alphabetically by author, and by the following subjects: administration/supervision, adult education, communication/communication devices, community services for the deaf, counseling, California State University-Northridge deaf students, national/international trends, interpreting, laws and legislation, Leadership Training Program studies, media, minority deaf, multihandicapped deaf, parent information, psychology/mental health, rehabilitation, religion, schools for the deaf, sign language/linguistics, total communication, and vocational training. Information provided in each entry includes author, title, year, and number of pages. Entries on the deaf-blind are listed alphabetically by author and by year.

ED 224 259

D-Man: Teacher's Guide (and) D-Man Deaf Super-Hero Fights for Good Nutrition!
Miller, Nancy Q.; and others; 1981, 88 p.
West Central Regional Education Service Center, Peoria, Illinois

The comic book featuring a deaf super-hero and the accompanying teacher guide are designed to teach junior high school students about nutrition. Section 1 of the teacher's guide outlines student activities, which are grouped according to nutritional concepts. Objectives, subject areas, and resources are identified. Seven nutritional concepts, identified by the Illinois Nutrition Education and Training Program, are covered: physiological facts, nutrients, food handling, life cycle, social/psychological aspects of food, food technology, and nutrition and society. Activities are keyed according to the following subject areas: consumer education, health, home economics, language arts, math, reading, science, and social studies. Section 2 offers supplemental teaching information including handouts with background nutritional information (such as food or menu terms, nutrition terms, and nutritional concepts and objectives by developmental level), a student study guide, discussion questions, illustrated signs for nutritional terms, and a list of 49 resources (including books, curriculum guides, and audiovisual materials). A list of organizations and agencies providing instructional materials on nutrition completes the teacher's guide.

ED 224 257

Classroom Structure and Student Participation: An Aptitude-by-Treatment Interaction Approach to Instruction Research for the Hearing Impaired.
Dowaliby, Fred J.; and others; March 1981, 81 p.
National Technical Institute for the Deaf, Rochester, New York

The study, involving 53 students from the National Technical Institute for the Deaf, investigated the relevance of certain aptitude-by-treatment interaction findings with normally hearing students to the instruction of hearing-impaired students. Instructional variables investigated were classroom structure and student participation. Student aptitudes included were manifest anxiety and perceived locus of control. The main effects of classroom structure and student participation were also considered. Outcome measures included students' rating of difficulty, teacher skill, teacher affect, and overall ratings. Learning performance was assessed with a completion-type examination of factual recall that was administered immediately after the rating of the instructional session. Among findings were the following: high participation resulted in higher ratings of teacher skill and overall ratings; high structure yielded higher overall ratings and examination performance; subjects sufficiently external in their perceived locus of control orientation and in low participation conditions gave higher ratings of teacher skill for high versus low structure. Subjects low in internality perceived low structure conditions as more difficult than high structure conditions. Subjects low in anxiety potential rated the high participation, low structure condition more favorable in terms of teacher affect, teacher skill, and overall rating; as opposed to subjects in the low participation, low structure condition. Findings were generally consistent with previous findings with normally hearing subjects and with the concept of trait-by-treatment task interactions. Appendixes contain sample data collection instruments and tables and graphs illustrating statistical data.

ED 224 245

Differences in Physical and Sensory Development: ECI-2. Early Childhood Intervention Catalog Module.
Evans, Joyce; Bricker, Donna; August 1982, 49 p.
Southwest Educational Development Lab.,
Austin, Texas

The second of seven modules on early intervention for young (birth to age 3) handicapped children provides information on training teachers and other professionals working with children who have motor, hearing, or visual disabilities. An outline of two inservice training sessions, "Explore—There's Environment Everywhere!" and "Is This My Body?" includes objectives and preparation ideas for each lesson. Sessions cover the importance of sensory and body image experiences and of appropriate learning environments. Descriptions of 12 primary references on the topic include information on author, title, publisher, audience, format, date, and cost, along with suggestions for use in the training program. An annotated bibliography lists information on approximately 50 references related to children with motor, hearing, or visual problems.

ED 224 243

Information Needs and Services Related to Hearing Impairment.
Hawkins-Shepard, Charlotte; May 1982, 25 p.
Virginia Beach, Virginia

The paper reviews the literature on the information needs of parents and teachers of hearing-impaired children and of the general public regarding hearing impairments. Survey results from a descriptive study on national patterns of information seeking and providing in regard to hearing impairment are summarized in terms of information inquiries received by 1,057 organizations and information responses provided, and information needs of 550 individuals concerned with hearing impairment. Some findings were that 72% of the requests to organizations concerned local resources; the greatest number of requests were on deafness in general, manual communication/sign language, lipreading/speechreading/speech, and telecommunication devices; slightly more than 50% of the organizations had a telecommunication device; and approximately 33% of all responding individuals appeared to be less than satisfied with the information services they received. Data suggested the need for wider providers and for focal points through which inquiries can be channeled so that requests are handled by those information providers best prepared to respond appropriately. Summaries of nine information centers and systems are provided.

ED 225 335

Guidelines for the Development of a High Risk Registry Program for Hearing Impairment.
1981, 83 p.
South Carolina University,
Columbia, South Carolina

The manual outlines the development of a hospital high risk registry for infants with hearing loss. A program conceptualization lists aspects of program planning, personnel, physical arrangements, financial administration, evaluation planning, records and reports, and coordination with other agencies. A guidelines section suggests a sequence of actions in developing such a program, beginning with knowing the literature. A cost estimate section presents figures for initial organization and annual operating costs based on 1982 estimates for a program at Richland Memorial Hospital in Columbia, South Carolina. Following a list of criteria for placing newborns on the high risk registry for hearing impairments is a sample of a proposal for the implementation of a newborn high risk register for hearing impairment. Sample forms (including information letters to physicians, information for the audiologist, and evaluation plans) are included.

ED 225 330

Meadow/Kendall Social-Emotional Assessment Inventory for Deaf Students: Manual.
Meadow, Kathryn P.; and others; 1980, 29 p.
Gallaudet College,
Washington, D.C.

The report describes the development of the Meadow/Kendall Social-Emotional Assessment Inventory for Deaf Students (SEAI). The SEAI has grown out of requirements in PL 94-142, the Education for All Handicapped Children Act. The theoretical framework, including its emphasis on language deprivation and the resulting communication problems of deaf students, is examined. The SEAI's development is traced from item construction, field testing, and response processing. Norms are then established. Administration and scoring of the SEAI are detailed, and examples are provided. The conclusion cautions that the SEAI should be a part of an overall assessment procedure and suggests that the inventory may identify students who need extra attention in a particular area. The 59-item inventory is appended.

ED 225 329

Sexuality and Deafness.
May 1979, 88 p.
Gallaudet College,
Washington, D.C.

Eight papers focus on sex education for deaf students. R. Davila ("Sex Education from the Deaf Perspective") suggests that sex education is not the responsibility of any one group, but that special educators have a special responsibility in this area. D. Fitz-Gerald and M. Fitz-Gerald cite barriers facing deaf persons in receiving sex education and assert that "Deaf People Are Sexual,Too!" The Fitz-Geralds then consider (in "Behind the Times") the role of the parents and the residential school in providing sex education to deaf students. Among the "Sexual Implications of Deafness" considered in a fourth paper (D. Fitz-Gerald and M. Fitz-Gerald) are the impact of residential schools and the difficulties of understanding such abstract concepts as maleness and femaleness. D. Fitz-Gerald, M. Fitz-Gerald, and C. Williams consider the status of teacher preparation in "Sex Educator: Who's Teaching the Teacher Sex Education?" They review a survey of teacher-training programs that highlighted a need for more in-depth training. A sixth paper reviews results of a sex education survey of residential facilities for the deaf. The Fitz-Geralds summarize responses that indicated that one out of three residential programs offered no sex education as a specific course. "Human Sexuality and the Handicapped Child," by D. Fitz-Gerald and M. Fitz-Gerald, traces normal sexual development and comments on the professional's role in fostering healthy sexuality for deaf persons. The final paper, "Parents: A Child's First Sex Educator," by M. Fitz-Gerald emphasizes the parent's critical role.

ED 225 328

Guidelines to Writing or Rewriting Materials for Deaf Students with Special Emphasis on Syntax.
Rosenbloom, Betty; 1981, 36 p.
Gallaudet College,
Washington, D.C.

The manual is intended to help writers or adapters of instructional materials for deaf students. The first section examines difficulties in providing suitable reading material for deaf students. The problems in evaluating deaf students' reading levels are examined. Writers are cautioned to pay particular attention to syntax, vocabulary, and idioms. The decision of rewriting material or writing entirely new material is considered. A four-part guideline for adapting reading material is offered. Three appendixes make up the bulk of the document. Appendix A describes 10 areas of syntactical construction (such as question, negation, conjunction, and pronouns) and suggests a sequential order of difficulty in learning parts of each construction. Appendix B presents the same information arranged by level of difficulty. The final appendix provides an example of rewriting a paragraph at different syntactic levels.

ED 225 327

Social Studies: A Resource Guide for Hearing-Impaired High School Students.
Jaggers, Robert A.; Jaggers, Barbara A.; 1981, 69 p.
Gallaudet College,
Washington, D.C.

The guide was written to give secondary level hearing-impaired students exposure to real life problems from a social studies perspective. Units are outlined for the three levels of the high school years and provide an overview, information on vocabulary, target competencies, suggested activities, sources, and a list of objectives. The units are arranged in a sequence, with topics building on one another. Math concepts are integrated into the social studies instruction. Four units in the first level address the following major topics (sample subtopics in parentheses): consumer education (unit pricing, brand name products); banking (checking, savings accounts); credit and credit cards (credit card application, billing procedures); and American history. The second level focuses on budgeting (priorities, determination of a reasonable budget); insurance (kinds, purchase); income tax and income tax forms (deductions, tax preparation); renting (use of classified ads, rental considerations); and selecting and buying a house or car (dealing with a realtor, installment buying). The third level touches on careers (choosing and locating a job, job interviews); the Constitution and the Bill of Rights (purposes of each); the law (legal rights, court and police procedures); and responsibilities of citizenship (understanding politics, obligations, government services).

ED 225 326

Program Objectives for Science. Revised.
Bednarczyk, Angela; and others; 1981, 192 p.
Gallaudet College,
Washington, D.C.

The guide lists program objectives for science instruction of hearing-impaired students at Kendall Demonstra-

tion Elementary School. The curriculum, it is explained, is based on theories of Jean Piaget. Objectives are stated in terms of process skills within four Piagetian stages of development: pre-operational, transition to concrete, and transition to formal. Process terms used in the behavioral objectives are defined (observation, classification, communication, measurement, investigation, prediction, and formulation and testing of hypotheses). Science content of the objectives addresses three major categories (sample matter, energy, force, work, and motion); earth science (geology, climatology and oceanography, and astronomy); and biological science (growth and reproduction, habit, structure, human application, and human reproduction). An explanation of student placement within the curriculum and a brief listing of sources of material are also provided. Comments from the curriculum evaluation are summarized in terms of scholarship, usefulness, equity, communicability, and appeal.

ED 225 325

Program Objectives for Reading and Writing. Revised.
Ewoldt, Carolyn; and others; 1981, 117 p.
Gallaudet College,
Washington, D.C.

The manual lists objectives for hearing-impaired students in reading and writing at Kendall Demonstration Elementary School. The guide focuses on comprehension of English print and on the communication of ideas in writing. Student objectives are listed for 10 main topic areas (sample subtopics in parentheses): attitudes and habits in reading and writing; reading awareness (book orientation, directionality, attention to print); writing awareness; understanding the reading process (predictions, language experience, dramatization, picture use); understanding the writing process (language experience in writing, picture cues for writing); reading study strategies (reference tools, textual aids to content reading); organizational strategies for writing (reference tools and textual aids); literary devices in reading (story elements and structures); literary devices in writing; and conventions (reading and writing conventions of print). Evaluation results are reported in terms of the curriculum's scholarship, usefulness, equity, communicability, appeal, and overall quality.

ED 225 324

Program Objectives for Mathematics. Revised.
Dayoub, Iris; and others; 1981, 90 p.
Gallaudet College,
Washington, D.C.

The manual lists program objectives for the math curriculum at Kendall Demonstration Elementary School for hearing-impaired students. Objectives are grouped by age (preschool, grades 1 through 6). Objectives are organized into strands: relations (likenesses and differences among sets and numbers and on the order of sets and numbers); numbers (meaning of cardinal, ordinal, fractional, and decimal numbers); measurements (of time, distance, volume, weight, area, and money); operations (processes related to addition, subtraction, multiplication, and division); number theory (including identifying odd and even numbers); place value (decimal system); geometry (including identifying, classifying, and comparing standard figures by analyzing their properties); and problem solving. Charts at the back depict the order in which objectives should be worked on for each age level. Evaluation findings are provided in terms of scholarship, usefulness, equity, communicability, appeal, and overall quality.

ED 225 323

Program Objectives for Social Studies. Revised.
Alvarez, Adoracion A.; and others, 1981, 82 p.
Gallaudet College,
Washington, D.C.

The guide lists program objectives for the social studies curriculum used at the Kendall Demonstration Elementary School (KDES) with hearing-impaired students. Terminal objectives are listed, and teachers are encouraged to supplement them with subobjectives and activities. Objectives are said to cover preschool through middle school levels. Five basic areas of social studies are addressed (sample subtopics in parentheses): geography (map skills, climate/weather, transportation, ecology); sociology/anthropology (family, communities, social development, cultural diversity); economics (career education, production, monetary system); history; and political science (citizenship, rules and laws, government). An evaluation report reviews findings regarding the curriculum's scholarship, usefulness, equity, communicability, appeal, and overall quality.

ED 225 322

Model for the KDES Education Program. Kendall Demonstration Elementary School Career Education Project. Second Revised Version.
Fitch, Brian; and others; June 1981, 29 p.
Gallaudet College,
Washington, D.C.

The booklet describes the approach to career education for hearing-impaired students developed by the Kendall

Demonstration Elementary School (KDES) in the District of Columbia. The KDES model is described in terms of project direction and the seven model components: planning, staff development, program development, curriculum development, pilot/field tests, and revision. Project development and redevelopment processes are graphically depicted. The project's products are divided into four working documents and four curriculum materials. Working documents, which include an orientation manual to career education, provided the underlying structure for the program. Curriculum materials include an introduction to career education role playing for preschool, primary, and elementary department students; a career awareness program; four basic career education curriculum materials; and two career exploration simulations.

ED 225 321

Resource Guide for Career Education. Revised Version. Kendall Demonstration Elementary School Career Education Project.
Johnson, Jinny J., Comp.; Neuman, Delia, Ed.; September 1979, 142 p.
Gallaudet College,
Washington, D.C.

The guide was designed to help teachers select materials for infusing career education into classroom activities for elementary-aged hearing-impaired pupils (as originated at the Kendall Demonstration Elementary School). Listed are approximately 250 materials (books, captioned films, film loops, filmstrips, games, kits, manipulatives, pamphlets, puzzles, study prints, task cards, toys, transparencies, and workbooks). Two indexes as provided: the Demonstration Elementary School Curriculum Guides (functional, language arts, mathematics, science, social/emotional, and social studies); and the index to scope and sequence, arranged according to self-awareness, decision making, beginning competency, employability skills, and appreciations and attitudes. Following the indexes, materials are listed alphabetically by title. Entries include information on title, publisher, curriculum area, scope and sequence, and a brief annotation. Each entry also includes evaluation information based on five categories: physical characteristics, content, teacher needs, learner needs, and validation.

ED 225 320

Scope and Sequence for Career Education at the Kendall Demonstration Elementary School. Kendall Demonstration Elementary School Career Education Project.
Johnson, Jinny J.; Neuman, Delia, Ed.; September 1979, 44 p.
Gallaudet College,
Washington, D.C.

The document provides a list of career education goals and subgoals for hearing-impaired elementary students at the Kendall Demonstration Elementary School. The listing is intended to help in infusing career education concepts into classroom activities. Eight themes are addressed, and goals and subgoals described for preschool, primary, elementary, middle school, and high school levels. The following eight themes are considered: self-awareness, educational awareness, career awareness, economic awareness, decision making, beginning competency, employability skills, and attitudes and appreciations. It is suggested that the goals and subgoals listed in the eight areas be used as guidelines rather than as exact requirements for a career education approach.

ED 225 319

Catalyst: Handbook of Existing Career Education Programs and Facilitators.
Schutt, Marcia; Egelston-Dodd, Judy; 1980, 94 p.
Model Secondary School for the Deaf,
Washington, D.C.

The handbook presents a resource list of career education experts and successful career education programs with sample career education materials to be used for planning career programs for hearing-impaired students. It is explained that facilitators were trained as part of the National Project on Career Education (NPCE). After training, facilitators were responsible for offering training and consultation on career education in their local schools. It was found, however, that external agents of change were often needed to act as catalysts. Facilitators are identified in each state of the 10 federal regions. Information on position, address, education level, experience, handicap (if any) and interests or hobbies is given. Similar information is presented for the NPCE national training team. Contact persons for career education are listed by state, as are existing career education programs serving hearing-impaired students. The final section presents summary data on 35 career education projects.

ED 225 318

Career Development Program: A Procedures Manual.
Walker, Bonnie L.; and others; 1980, 32 p.
Gallaudet College,
Washington, D.C.

The manual describes the development and implementa-

tion of the Career Development Program at the Model Secondary School for the Deaf (MSSD). The program is said to provide a step-by-step introduction to the world of work. Nine courses are offered, with a focus on five goals: increased awareness of the world of work; exploration of a variety of occupations and occupational clusters; development of job seeking skills; development of good work habits; and development of short- and long-term career objectives and decision-making skills. Objectives are listed for two courses that are prerequisite to work experience. A profile of each student is analyzed to determine readiness for work and appropriate job placement. If a student is not ready for work experience, alternative community resources are explored. Two courses providing part-time work experience are followed by a full-time summer work experience. The work placement specialist's role is examined, and follow-up courses for the senior, focusing on career planning and decision making, are described.

ED 225 317

Audiology Services Manual.
1979, 54 p.
Gallaudet College,
Washington, D.C.

The manual describes audiology services offered at the Model Secondary School for the Deaf (MSSD). Components are listed for diagnostic services, instructional services, program development, training, and publications. Testing and reporting procedures for MSSD students are outlined. Testing includes pure-tone air conduction testing, tympanometry, acoustic reflex testing, and audiometric speech testing. Written reports of the audiologic evaluation are made for students' files, intake evaluation, and students' parents. Goals and services of the MSSD amplification program are described. The school's communications lab offers minor hearing aid repairs, maintenance and calibration of other equipment, consultation with faculty about equipment, technology design, equipment evaluation, and instruction about the equipment for faculty and students. Otologic (ear specialist) services are briefly addressed. Finally, MSSD's training programs for graduate students in audiology are described. Sample forms are included throughout the manual.

ED 225 316

Developing Auditory Skills: A Guide to Auditory Communication Activities. Revised Edition.
Marvich, Judith W.; Lederman, Norman; 1980, 36 p.
Gallaudet College,
Washington, D.C.

The manual provides information about the development of auditory communication training for hearing-impaired students. Two models of auditory training are reviewed: the Model Secondary School for the Deaf, which posits five areas of training, including, awareness, attention, identification/recognition, message analysis, and comprehension/integration; and the Kendall Demonstration Elementary School, which covers detection, discrimination, identification, and comprehension. Sample auditory communication activities are described for the above-named topic areas, with information on objectives, equipment, teacher preparation, and instruction. A section on equipment addresses advantages and disadvantages of hardware amplifier systems, radio frequency systems, induction loop systems, and portable auditory training systems. Use of tape recorders, record players, and audiocard readers is considered. Guidelines for equipment operation and maintenance are offered. Finally, a list of equipment manufacturers and a bibliography of eight references conclude the manual.

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